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UNIVERSITY OF NORTH CAROLINA
EXTENSION BULLETIN

VOL. XIX JULY, 1939 NO. 1

AUDIO-VISUAL AIDS TO SCHOOLS, COLLEGES, CHURCHES, AND ADULT STUDY GROUPS

Educational Film Library and Lantern Slide Loan Service

THE UNIVERSITY OF NORTH CAROLINA PRESS

CHAPEL HILL MCMXXXIX

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CHAPEL HILL, N. C.

UNIVERSITY OF NORTH CAROLINA EXTENSION BULLETIN

Vol. XIX July, 1939 No. 1

AUDIO-VISUAL AIDS TO SCHOOLS, COLLEGES, CHURCHES, AND ADULT STUDY GROUPS

Educational Film Library and Lantern Slide Loan Service

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FOREWORD

It is the purpose of the Extension Division to place audio-visual aids at the disposal of the schools and other educational, religious, and civic agencies on a cost basis. The receipts from rental charges will be used to operate the service and to make accessions to the library of films and slides.

Primarily, the visual education services are designed to aid elementary school, secondary school, and college teachers to supplement classroom instruction. Consequently, material is being selected and made available that may be integrated with the curriculm or the courses of study in public schools and colleges. Special programs will also be arranged to fit the interest of adult study and church groups.

The Bureau of Visual Instruction of the Extension Division is prepared to provide a number of advisory services including the selection of projectors and other equipment, suggestions to teachers regarding the use of visual aids, and information on the sources of motion picture films and slides.

Due to the fact that only a comparatively small number of schools are at present equipped to use films, the Bureau will loan projectors on a nominal rental basis. Parent-Teacher Associations and other organizations are interested in educational motion pictures and may be requested to cooperate with the schools in securing the necessary equipment.

Suggestions concerning the services of the Bureau are solicited.

SIXTEEN MILLIMETER
SOUND AND SILENT
FILM LOAN SERVICE

REGULATIONS AND PROCEDURE FOR BORROWING FILMS

(A request for films implies acceptance of the conditions governing the service.)

How to Order Films

1. In requesting films or otherwise referring to them in correspondence, specify the correct number, title, whether sound or silent, number of reels, and date or dates on which they are to be used. Shipping directions (whether by parcel post or Railway Express) must be given.

2. Booking request must be made in the name of the institution or orginazation using the films, and must be signed by the person to whom shipments are to be made and billed, and who is responsible for the return of the materials.

3. Film schedules are reserved in order of receipt; therefore, early requests are advisable. Bookings should be made at least two weeks in advance, and may be made in advance for the entire year.

4. It is advisable to give alternate choices of both titles and dates. Every effort will be made to complete a satisfactory schedule. The Extension Division reserves the right to make substitutions in subjects, especially in late orders, when the film or films asked for are not available.

Shipments

5. The Extension Division endeavors to ship films so as to arrive at their destination the day before the showing date.

6. Film users will pay transportation charges both ways. Films may be shipped by parcel post or Railway Express. Shipments made by express from Chapel Hill may be returned for one-half the outgoing rate.

7. Shipments to and from many localities are cheaper by parcel post than by express. Schools or organizations desiring shipments by parcel post and planning to use numerous films during the year should make a deposit of $5.00 or $10.00 to cover postage from Chapel Hill. Accurate account of postage is kept, and when the amount of the postage is depleted the borrower is notified; in case all of the deposit is not used, the Extension Division will hold to the credit of the account any unused portion. Borrowers having postage deposits should state when ordering films that shipment is to be made by parcel post.

8. In some case, where shipments by parcel post require an excessive amount of time in transit, the Division reserves the right to ship films by parcel post "special handling" and to charge the extra special handling fee of from ten to twenty cents to the user's account.

Care of Films

9. Use special care in threading the projector so that no sprocket holes will be torn. Remember that one trip through an improperly adjusted projector may completely ruin a film. The film track and tension spring or plates should be thoroughly cleaned of all emulsion deposit after each program. Torn sprocket holes may be caused by worn sprocket teeth or by dirt accumulating in the film track, on the tension spring, or around the sprocket teeth. Faulty sound is sometimes caused by particles of dirt in the sound optical system of the projector. Do not use a dirty projector, a poor screen, or an uninformed operator, since it is impossible to obtain good projection under these conditions. Occasionally, sometimes evidently without the knowledge of the borrower, sprocket holes throughout an entire film are badly damaged and in some instances the film is rendered unfit for further service, making replacement necessary. To avoid such extensive damage, the person projecting the film should be very watchful of a slight difference in the noise made by the projector mechanism or for any unusual flicker in the screen image.

10. Do not allow grease, oil, or water to come into contact with the films.

11. If film breaks, do not pin the two ends together. This may injure the mechanism used for inspection of all films. If a break occurs during projection, a few feet of film should be run through the projector and lapped under the end of the film on the take-up reel.

12. Unless absolutely necessary, users should not repair broken films before returning them. When it is necessary to splice a broken sound film for additional showings, users should indicate on the report card returned with the film that a splice has been made and the approximate part of the picture where the splice was made so that the splice may be deadened to avoid disturbances in the sound.

13. Keep films in metal containers and in a moderately cool place, in order to keep them from drying out and becoming brittle.

Returning Films

14. The report card mailed with each shipment of films must be filled in and sent to the University Extension Division promptly after each showing. Users are requested to comment freely regarding the films and their relative effectiveness as used.

15. Return film shipments must be made by first mail or express after their scheduled use. All shipments must be returned prepaid.

16. Films must be returned, carefully packed, in the boxes and in the cans in which they were received. Return address labels are included in each shipment; these labels should be used for safe return of all materials. All old labels should be marked out or scraped off the package to avoid the possibility of its going astray.

17. Films should not be rewound after showing and they should be returned on the same type of reels on which they were received. The Extension Division reserves the right to make an extra charge when reels inferior to those sent are returned.

18. In returning films by express, always obtain a receipt so that in case of loss responsibility may be properly placed.

19. The Extension Division reserves the right to send collect telegrams or to reverse telephone charges when borrowers do not return the films promptly as scheduled. All material is booked in advance, and this service cannot operate efficiently without the full cooperation of its borrowers in the prompt return of films.

20. If it should become necessary to hold films beyond dates scheduled, permission should be requested from the Division by telephone or telegraph. Films must be scheduled for additional days in advance; otherwise, the full service charge will be made for each day the material is held without permission.

Fees

21. All service fees and rentals are payable in advance. When orders are not accompanied by payment, the Division reserves the right to ship films C. O. D.

22. Each rental fee quoted covers the use of the film in one school for one day. For each successive day, one-half of the fee quoted for the first day's use will be charged. If a school wishes to use a film for one school week, the charge is for three rentals.

23. All checks and money orders should be made payable to: University Extension Division.

Responsibility of Film Users

24. Exhibitors are responsible for films and will be held liable for damage or loss occuring while such material is in their possession, regardless of cause. Damaged films will be charged for at the rate of 10 cents per foot. Should material be damaged when received, report should be made the same day.

25. The Extension Division inspects all films by hand immediately after their return by the user, and reserves the right to determine the extent of damage and to fix proper charge for damage in each case. No charge will be made for ordinary breaks not involving extensive damage to the film.

26. Any failure to ship or handle visual instruction materials properly or to report showings and attendance will be considered sufficient reason for discontinuing service.

Miscellaneous

27. Each 400-foot reel of sound film requires about eleven minutes for projection. The same length of silent film requires about fifteen minutes, due to the difference in projection speed.

28. Films may not be loaned to other institutions or individuals by the original borrower without the knowledge and consent of the Extension Division.

29. Teaching manuals or guides are available for a number of films as indicated by the word "guide" in the listing of the film. These guides will be sent only if the user specifically requests them. Users must pay postage on the teachers' guides.

30. Request for booking forms, for the use of motion picture films, for information on the value and proper use of films in the classroom, for information pertaining to the purchase of visual aids (projectors, films, classroom equipment, etc.), and all other communications relating to the service should be addressed to: Bureau of Visual Instruction, University Extension Division, Chapel Hill, N. C.

CLUB RENTAL PLANS

In cooperation with institutions and organizations that contemplate scheduling a number of films for several months or a year in advance, the University Extension Division offers three booking plans on a yearly basis at club rates, as follows:

PLAN I—By paying $50.00 in advance, any institution or organization agreeing to be governed by the procedure outlined on pages 7, 8, 9, and 10 of this bulletin will receive a 40% reduction of the individual rental fee for each subject listed in the catalogue with the exception of those marked with an asterisk. If films are to be shipped by parcel post, an advance deposit of $10.00 for postage is required; if by express, transportation both ways will be paid by the user.

PLAN II—Thirty dollars paid in advance will allow the users of this club plan a 30% reduction on all film subjects listed in this catalogue with the exception of the films marked with an asterisk. A $5.00 advance deposit fee is required for parcel post shipments.

PLAN III—Fifteen dollars paid in advance will allow the users of this club plan a 20% reduction on all film subjects listed in this catalogue with the exception of the films marked with an asterisk. A $3.00 advance deposit fee is required for parcel post shipments.

Note: These films marked with an asterisk may be secured under the Club Rental Plans, however, no discount is deductible.

Plan For Borrowing Projectors

To schools not owning motion picture equipment, the Extension Division offers for rent screens and 16mm. sound projectors using 750 watt lamps.

The rental fee for a screen and projector will be five dollars for each day used. The borrower will pay all transportation charges.

The person or institution renting same will be held responsible for the proper care of the equipment. This will necessitate the employment of a competent operator.

TITLE INDEX

of Sixteen Millimeter Sound and Silent Films

A	Classification Number
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Adventures of Bunny Rabbit	599. Ad
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Alaska	917.98 Al
Alaska's silver millions	639 Al
Alimentary tract	612.3 Al
Allgaeu in summer	914.3 Al
Along came a duck	F-Al
American way	353 Am
Animals of the zoo	591.5 An
Anne learns about cargo boats	387 AnC
Anne learns about ocean liners	387 AnO
Anne visits fish harbor	639 An
Aphids	595.7 Ap
April romance	F-Ap
Arctic exploration	919.8 Ar
Arts and crafts	970.1 Ar
Arts of China	915.1 Ar
As we forgive	170 As
Ave Maria	780 Ba

B	
Bach: Air for the "G" string	785 Ba
Bach-Gounod: Ave Maria	780 Ba
Balanced plenty	631.5 Ba
Baltic sea coast	914.3 Ba
Barabbas	225.9 Ba
Baroque city of Dresden	914.3 Bar
Bavarian Alps, from Garmisch-Partenkirchen to Berchtesgaden	914.3 Bav
Bayreuth—city of Richard Wagner	914.3 Bay
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Behind the shadows	616.24 Be
Berlin	914.3 Ber
Beyond our horizon	240 Be
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Black beauty	F-Bl
Body defenses against disease	613 Bo
Boone, Daniel	92 Bo
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Brass choir	788 Br
Brazil	918.1 Br
Bremen	914.3 Br
Brick pavements	691.3 Br
Bring 'em back alive	F-Br
Bryce national park	917.92 Br
Buddhism	290 Bu
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C	
CCC accomplishments in Pennsylvania	634.909 CC
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Columbus	973.1 Co
Conquest of diphtheria	616.2 Co
Continent of South America	918 Co
Cotton, from seed to cloth	677.2 Co
Country and people of the Erzgebirge	914.3 Co
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Cradle of the fathers of waters	634.909 Cr

D

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Dances of the nations	793.3 Da
Davis cup tennis, 1936	796.34 Da6
Davis cup tennis, 1937	796.34 Da7
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G

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German winter sports	914.3 GeS
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	Classification Number
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Glimpses of national parks	917.8 Gl
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H

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Heart of the Confederacy	917.61 He
Heart of the Sierras	917.94 He
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His contribution to modern civilization	970.1 Hi
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How to use your camera	778 Ho
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Italy	914.5 It

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Jane Eyre	F-Ja
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Looking forward	970.1 Lo
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Our Mexican neighbors	917.2 Ou
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P

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R

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Classification Number

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Roumania 914.98 Ro

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Safety glass 666.1 Sa
Salt of the earth 630.973 Sa
Saving the beauty of Alabama 634.909 Sa
Scenes from Thuringia 914.3 Sc
Science and modern medicine 613.9 Sc
Science makes a dentrifice 617.6 Sc
Second Hungarian Rhapsody 785 Se
Seed dispersal 581 Se
Seeing Glacier national park 917.86 Se
Seeing Yosemite national park 917.94 Se
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Shenandoah national park 917.55 Sh
Sinews from the soil 634.909 Si
Skilled and unskilled labor 331.7 Sk
Solar family 520 So
Sound waves and their sources 534 So
Spiders 595.4 Sp
Statue parade 914.2 St
Stop forest fires 634.92 St
Story of leather 675 St
String choir 787 St
Stuttgart 914.3 St
Sugar 664.1 Su
Sugar cane 664.1 SuC
Sugar refining process — Dixie Crystals 664.1 SuP
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Classification Number

T

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Taming the desert 634.909 Ta
Teaching with sound films 371.33 Te
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Territorial possessions of the United States 973 TeP
There's only one 917.53 Th
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Thirty-six weeks behavior day 136.7 Th
This changing world 669.7 Th
Three counties against syphilis 616.9 Th
Three great religions of China 915.1 Th
Three little kittens 636 Th
Through Galileo's telescope & Mt. Wilson observatory 520 Th
Thrushes and relatives 598.2 Th
Tidal theory of the earth's and moon's creation, and the moon in closeup 520 Ti
Tindale, William, life of 92 Ti
Tiny water animals 591.92 Ti
Tree of life 634.9 Tr
Trees and stones that speak 634.909 Tr
Trees to Tribunes 676 Tr
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V

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Vincennes 973.3 Vi
Vintagers' festival 914.3 Vi
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We work again	326 We
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Wee Anne goes sailing	797.1 We
Wee Anne visits the farm	630 We
Wee Anne visits the Indians	970.1 We
Wee Anne visits the zoo	591.5 We
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Wee Anne's dog Sandy in just a dog's day	636.7 We
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White Sands national monument	917.89 Wh
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Work of running water	551.48 WoW
Work of the atmosphere	551.3 Wo
Work pays America	331.7 Wo
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Z

Zion national park	917.92 Zi
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OUTLINE OF CLASSIFICATION

Used in the Classified List of Sixteen Millimeter Sound and Silent Films

92 Biography. Filed as 920

100 Philosophy

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170 Conduct

200 Religion

225.9 New testament
240 Devotional. Practical
266 Missions
266.7 Missionary education
290 Religions

300 Social Sciences

320 Political sciences
326 Negroes
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DIRECTIONS FOR USE

Title: The title of the film is given as listed by the producer.

Length: Length is given in minutes when obtainable. Otherwise number of reels is given.

Width: Width is given by the figure 16 and the abbreviation "mm" is omitted.

Sound: Sound films are indicated by the abbreviation "sd"; silent by "si."

Stock: Since all 16mm films are on safety stock these abbreviations have been omitted in the description of these films.

Service fee: Rental prices have been given for one day's use. In addition to the rental price, the user pays transportation charges both ways.

Date: The copyright date is given when it was obtainable but in some cases the release date is given instead. A date followed by a question mark (e.g. 1929?) means that the date is probably the release date but definite and conclusive information was not obtainable.

Producer: The producer or authorized distributor given is the one now owning or having access to the negative of the film.

Guide: "Guide" is used to indicate the guide for the teacher with which many films prepared for educational purposes are accompanied.

Classification number: For purposes of identification, a classification number has been assigned to each film.

Grade levels: The abbreviations "ps", "el", "jh", "sh", "c", "adult", and "trade" are used to indicate the grade levels for which the film is most suitable. Many films are clearly for use on several grade levels.

Sound and silent versions of same film: A number of films listed are available in both the silent and sound versions. In such cases, two service fees are given.

KEY TO SYMBOLS

min—minutes
R—reel or reels
16—16 millimeter width
si—silent, no sound—titles instead of sound
sd—sound-on-film
ps—pre-school; suitable for pre-school or kindergarten groups
el—elementary; suitable for elementary grades
jh—junior high; suitable for junior high school
sh—senior high; suitable for senior high school
c—college; suitable for college use
adult—adult education
trade—trade schools

INDEX

In the title index will be found all films listed alphabetically according to title as given by the producer, with the classification number for each.

In the outline of classification will be found the classes under which the films are listed. You will use this outline in a fashion similar to the regular library card index file.

CLASSIFIED LIST

of

Sixteen Millimeter Sound and Silent Films with Descriptions

100 PHILOSOPHY

92 BIOGRAPHY

(92 is used in this catalog for biographical films. These are filed in the numerical order of 920. See page 73)

136.7 CHILD STUDY

Thirty-six weeks behavior day. 10min 16-sd-$1.50 1935 Erpi **136.7 Th**

By Dr. Arnold Gesell, director, Yale clinic of child development.

The infant boy whose behavior day at 12 weeks was charted is now 36 weeks old. He has made striking progress. His reactions are compared with those which he experiences twenty-four weeks earlier. His responses to the ministrations of his father and mother are commented upon. Of particular interest is the portrayal of very first successful creeping efforts observed during his efforts to advance upon and seize a ball on the floor. An animated clock announces the changing events of the day's schedule.

sh-c Guide

170 CONDUCT

***As we forgive.** 15min 16-si-$1.50 1936 Harmon found. **170 As**

A modern boy, unwilling to forgive a friend, learns forgiveness by experiencing it himself.

el-jh-sh

200 RELIGION

225.9 NEW TESTAMENT

***Barabbas.** 2R 16-sd-$5.00 Harmon found. **225.9 Ba**

Made in England. Based on a drama by Canon Sedgwich. Produced by Religious Film Society.

Barabbas is a dramatization of the story of the thief who believed that Jesus took his place on the cross. The film opens during the trial of Jesus before Pilate, the Roman magistrate. There is a visit by the mother of Barabbas to the dungeon where her son is imprisoned. She tells him that Jesus has promised that Barabbas shall not die. Back in the courtroom, Pilate has let the crowd waiting outside the courtroom decide whether Jesus or Barabbas shall be crucified. The crowd's decision is that Jesus shall be. The scene changes to the place of the crosses. Barabbas approaches after Jesus dies. He joins Mary and John with his mother at the foot of the cross, and transformed, repeats, "He died for me."

el-jh-sh-c

***Faith triumphant.** 2R 16-sd-$7.00 Harmon found. **225.9 Fa**

Made in England by G. H. W. Productions.

The film presents the events in Paul's life in dramatic form, following the outline of Acts 21:27-26:32. The sets, the costumes, and the acting are outstanding. The words of the New Testament are beautifully articulated and gain their full meaning in the speech

of the man who plays the part of Apostle Paul. It is a motion picture with great emotional as well as intellectual appeal.

el-jh-sh-c

240 DEVOTIONAL. PRACTICAL

***Beyond** our horizon. 4R 16-sd-$12.00 Harmon found. **240 Bc**

G. H. W. production, made in Pinewood Studios, England.

This is the story of Pastor Brant. The country people of his parish in the lake and mountain district of upper Norway regard him as an instrument of God, capable of healing physical and mental ills, wise and understanding. He prays after all others have given up hope for a boy with pneumonia, and the patient recovers. His great test comes when his wife has a spinal injury which results in leg paralysis. When he goes to his church and prays for his wife's recovery he vows he will not rise until his wife walks. A landslide descends upon the district, but passes without damage to the dwellings and farmlands of the people. His wife rises slowly, walks toward her husband, and dies in his arms. The Pastor prays, "Why could I not await with trust thine own appointed hour?"

el-jh-sh-c

266 MISSIONS

***Medical** missions in Africa. (Africa—the spirit of Christ at work ser.) 1R 16-si-$1.25 Harmon found. **266 MeA**

This is a study of the needs of non-Christian lands. This film shows the health factors of southern and central Africa: the temperature, rainfall, insect pests, ignorance of the natives. The prevelent diseases of sleeping sickness, malaria, ulcers, leprosy, and blindness are treated with the available medical equipment of rural health workers and dispensaries, ambulance of native vintage, hospitals and clinics. There are native nurses, internes and doctors. The visiting nurses go into the interior to instruct patients and have health classes for mothers and in the schools. The mission service of Africa is shown bringing to the natives better health.

***Medical** missions in India. (India—the spirit of Christ at work ser.) 1R 16-si-$1.25 Harmon found. **266 MeI**

The factors for making of disease are present in India: dense population, poverty, pilgrimage and common bathing, gats, homes of the lowest caste and in industrial cities. The native remedies of disease are prayers to Goddess of Smallpox and Devil dances. The Hindus are seen as eager for knowledge. Great crowds listen to a lecture on health. The hospitals are open to rich and poor alike. The patients welcome the doctor with faith and gratitude. Covered carts and sedan chairs bring women from the seclusion of the home to reap the benefits of western science in the hospital. Under the strict social laws that obtain, it is only through women doctors or the bible women that Christianity has any contact at all with the women of India. Through vaccination, the medical missionary takes his first stand for the prevention of disease. The members of the Order of the Golden Towel, lepers, are taught to dress the wounds of other lepers. Then, we see the mission church, and the cripples being brought here.

el-jh-sh-c

***Word** of God in Africa. (Africa—the spirit of Christ at work ser.) 1R 16-si-$1.25 Harmon found. **266 WoA**

This study begins with the Camarons in the north, includes Rhodesia, and extends all the way south to Cape Town. There are scenes of the Negro quarters in a modern industrial city in South America, showing the impact of modern civilization upon

African life. The physical difficulty of transportation is seen as a problem to taking Christianity to the natives. Scenes are introduced showing the degree of civilization: the women pound their meal into flour in primitive stone mortars; a native carves out a wooden bowl; and a blacksmith uses a huge stone for his sledge and another stone for an anvil, for although the African has entered into the iron age, his handling of that metal is still very primitive. There are views of some of the social customs in Africa. Then Christianity comes to a native village by way of a native preacher, then a native mission church, and the various rituals of the Protestant churches mingled into one. In conclusion, a typical heathen African home dissolves into a Christian Africal home of today.

el-jh-sh-c

***Word of God in India.** (India—spirit of Christ at work ser.) 1R 16-si-$1.25 Harmon found. **266 WoI**

The three great religious groups in India are seen at worship: the Hindus, the Moslems, and the Animists. Christianity in India is viewed through a program of Evangelization by Bible women, singing, village street preaching, native churches, and the building of churches. There are remains of the early missionary effort of Benjamin of Travancore, of the Syrian Church. The film ends with a baptism and a harvest home festival.

el-jh-sh-c

266.7 Missionary education

***Christian education in Africa.** (Africa—the spirit of Christ at work ser.) 1R 16-si-$1.25 Harmon found. **266.7 ChA**

The picture opens with a map showing the portion of Central and South Africa embraced in the study. There are scenes of child life, of children coming to school afoot and by wagon and ox carts, of pupils in the primary, the intermediate and the senior grades. Along with the purely academic subjects, domestic and manual arts have a place in the school curriculum, which prepare the native for his part in the new order of things. Finally, there is a series of extra curricular activities—group exercises in gymnastics, group games, a gorilla race, a swimming race, troops of native boy scouts and girl guides, as well as a group of younger boys organized as "wolf cubs."

el-jh-sh-c

***Christian education in India.** (India—the spirit of Christ at work ser.) Harmon found. **266.7 ChI**

India is shown as a land of great contrasts—the richest and the poorest people in the world live there; they are seen against a background of gorgeous palaces and temples, poverty, squalor and degradation. Typical life of a village is depicted: the cultivation of the soil, the pumping of the water, the harvesting of the native maize or cholo, the pounding of the maize by hand by the women, and the work of the children. There are visits to Hindu and Moslem schools, then a group of mission schools. These mission schools are bringing into practice the best methods of modern pedagogy. The aim is to preserve the village and communal life of the Hindu, as against the industrialization. The school orchestra and the cooperative thrift bank are seen.

el-jh-sh-c

290 RELIGIONS

***Buddhism.** (Comparative religions ser.) 24min 16-si-$2.50 Religious motion picture found. **290 Bu**

Suitable for various types of church and mission study and for general cultural purposes as well as for studying comparative religions. This film shows the strength of the Buddhists and many details concerning the symbolism of Buddhism. It illustrates the life of Buddha, the spread of that religion in Asia, and some of its basic concepts.

*Islam in Egypt. (Comparative religions ser.) 14min 16-si-$1.25 Religious motion picture found. **290 Is**

Suitable for various types of church and mission study and for general cultural purposes as well as for studying comparative religions.

The learning and mysticism of Mohammedanism in Egypt, the intense loyalty of its followers, its strong customs and laws of life are here portrayed, and against this are revealed some of its faults.

*Primitive religions. (Comparative religions ser.) 16min 16-si-$1.25 Religious motion picture found. **290 Pr**

Suitable for various types of church and mission study and for general cultural purposes as well as for studying comparative religions. Interprets the beauty, intensity and the underlying savagery of the basic religious attitudes of man toward the forces of nature.

300 SOCIAL SCIENCES

320 POLITICAL SCIENCE

326 Negroes

Negro farmer. 30min 16-sd-$1.00 1938 U. S. agric. **326 Ne**

Outlines are given of the work of the Federal and State Extension Services among southern Negroes. It shows what is being done to further the cause of better farming and better living. Incidental choral music is rendered by the Tuskegee Institute Choir.

jh-sh-c

We work again. 15min 16-sd-$1.00 1937 WPA **326 We**

This is a stirring and dramatic picture of Negro activities under the Federal work program. All types of workers—from the common laborers to the highly trained technicians—are shown at useful tasks under the Works Progress Administration employment program.

el-jh-sh-c

330 ECONOMICS

331.214 Theory of wages

Hands. 1R 16-sd-$.50 1937 WPA **331.214 Ha**

Through pictures of human hands in action, this short subject tells the story of the depression, shows the tremendous scope of the Works Progress Administration employment program and its marked impetus to industrial recovery. It is the first documentary film ever to trace the circulation of money as it passes from the hands of the workman through those of the tradesmen into industrial marts.

el-jh-sh-c Guide

331.7 Skilled and unskilled labor

Work pays America. 40min 16-sd-$1.00 1937 WPA **331.7 Wo**

This is a dramatized record of accomplishments under the Works Progress Administration employment program. It is a moving human document showing public improvements and the conservation of human and natural resources.

el-jh-sh-c

339.4 Saving and thrift

***Our** children's money. 2R 16-si-$3.00 Harmon found. **339.4 Ou**

A family learns through trial and error how each member should manage personal finances.

el-jh-sh-c

353 UNITED STATES GOVERNMENT

***American** way. 10min 16-sd-$1.50 1937 Gutlohn **353 Am**

A Pathe news production.

The workings and history of constitutional government brought up to the present time. This film should interest every student and adult. It could well be used in classrooms for History and Social Studies.

jh-sh-c

370 EDUCATION

371.33 Educational films

Teaching with sound films. (Teacher training ser.) 10min 16-sd-$1.50 1936 Erpi **371.33 Te**

Based upon research and experimentation, this picture depicts methods of using the sound film in the classroom. Units of instruction at the intermediate, junior and senior high school levels are shown. The parts played by the teachers, the pupils, and the sound film are illustrated in the study of "Plant Growth," "Sound," "Work of Rivers," and other subjects. Because of the need for professional knowledge in this field, this picture will make a substantial contribution to classes in teaching method and in audio-visual instruction, as well as to teachers in service.

sh-c Guide

371.42 Vocations

Choosing your vocation. 10min 16-sd-$1.50 1931 Erpi **371.42 Ch**

By Dr. Harry D. Kitson, professor of education, Teachers college, Columbia university.

Dr. Kitson enacts the role of a psychoanalyst as he interprets the vocational problems of a high school boy who is making an effort to adjust himself. The boy faces his first problem when he desires money to purchase a camera. His first attempt at a "white collar" job is unsuccessful. Further research and reading convince the boy that he must enter a vocation which will permit him to utilize his special talents and interests. Following a period of "try-out" he reaches his goal.

jh-sh Guide

380 COMMERCE. COMMUNICATION

A film covering many kinds of transportation is classed here. Those depicting one form only are classed with their specific number.

Development of transportation. 10min 16-sd-$1.50 1935 Erpi **380 De**

This picture shows transportation developments within the United States during the past one hundred fifty years. The physical barriers, the spread of the railroad network, and the subsequent highway development, are shown rapidly and clearly. Principal stages

in the development of the locomotive and automobile are portrayed. Modern transportation devices including the airplane are shown in relation to their potentialities and our utter dependence on them.

el-jh Guide

386 Canals. Waterways

Canals of England. (Human geography ser.) 22min 16-sd-$3.00 1938 Erpi **386 Ca**

An account of the origin, development, and present status of the canal boat traffic in England is portrayed. A voyage on one of the boats is taken through the Grand Union Canal. Interesting views of the locks, countryside and towns through which the Canal passes, together with different types of cargo carried, provides a wealth of worthwhile geographic material. Studies of the families living on the boats give the pupil an unusual insight into the sociological problems involved. A conversation between the captains of the two boats exemplifies the type of thinking done by these people. The picture concludes with challenging questions as to the place of this mode of transportation in the machine age.

jh-sh

Our inland waterways. 35min. 16-sd-$1.00 1932 Inland waterways corp. **386 Ou**

Recently revised and brought up to date.

Traces the development of water transportation in the Mississippi Valley for the past hundred years, from the days of the flat boats and keel boats to the present dieselized, all-steel, twin-screw, tunnel-type tow boats and steel barges. Shows the development of the interchange river and rail terminals by the different cities throughout the Mississippi, the various types of equipment now in use, and the final coordination of truck-rail-barge-ocean transportation. In addition, this picture shows the picking, trucking, ginning, compressing and shipping of cotton; the threshing, harvesting, transportation, milling and handling of grain and the manufacturing processes through which sugar passes.

jh-sh-c

387 Ships

Anne learns about cargo boats. (Wee Anne ser.) 15min 16-si-$1.00 1937 Cinegraphic **387 AnC**

Anne rides a ferry boat in San Francisco Bay, sees the Golden Gate Bridge and the Bay Bridge; watches an Ocean Freighter being loaded; visits an Oil Tanker; learns about the operation of a Fire Boat and sees it in action. Some of the outstanding types of Cargo Boats are seen in this picture, which gives an appreciation of ocean freight transportation.

el

Anne learns about ocean liners. (Wee Anne ser.) 30min 16-si-$2.00 1938 Cinegraphic **387 AnO**

Anne is shown over the S. S. Lurline by the Chief Officer. She watches an automobile being loaded into the hold of the ship, and the hatches being closed; the bags and trunks being hoisted on board; and learns something of how passengers live on ship-board. On board a different type of passenger ship, the Captain explains the charting of the boat's course, the shooting of the sun with a sextant, the wireless room, the life belts, the fueling of the boat. A picture of ocean passenger ships.

el

392 MARRIAGE CUSTOMS

Peasant wedding in Hesse. 2R 16-si-$.50-sd-$1.00 German tourist **392 Pe**

Very interesting are the century-old marriage rites of Old Hessian villages. All the details of the ceremony are shown in this film, from the elaborate preparations of the bride to the transportation of her dowry, to her new home.

jh-sh

500 SCIENCE

***Nature's** chemistry. (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **500 Na**

This film is divided into 3 parts. Pt. 1 is a microscopic study of a drop of water showing glass models of microscopic animals; pt. 2 shows how sunlight converts green leaves into food and the growth of plants; pt. 3 presents some aspects of soilless agriculture, sand culture and the application of these methods to cattle feeding.

jh-sh

507 SCIENCE—STUDY AND TEACHING

***Child** explores his world. 30min 16-si-$3.00 1938 Harmon found. **507 Ch**

This film shows how the Brooklyn Children's Museum helps the child to enjoy the larger world of rocks and earth where plants and animals grow, where men build cities. The Museum is alive with hobbies, full of things he cares about, headquarters for exploring his world. This picture shows that a community may create a children's museum to help its children in healthy self-expression and character development.

el-jh-sh Guide

508 MUSEUMS

German museum in Munich. 2R 16-si-$.50-sd-$1.00 German railroads **508 Ge**

A pictorial trip through one of the greatest scientific museums in Europe. Many of the scenes show the details of actual operation of the scientific apparatus.

el-jh-sh-c Guide

520 ASTRONOMY

Earth in motion. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1936 Erpi **520 Ea**

This film presents realistically the dynamic aspects of the earth as a planet. The earth's sphericity is demonstrated, while rotation is established by star trails and the Foucault pendulum. Proof of the earth's revolution about the sun is presented by motion of the sun in respect to stars and by the annual parallax of stars. The film concludes with phenomena associated with this revolution, such as characteristics of orbit, aphelion and perihelion, law of areas, inclination of axis, and seasons.

jh-sh-c Guide

Moon. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1936 Erpi **520 Mo**

By means of animation and other cinematic devices this film presents dynamically the story of the moon. The difficult concept of tides is clearly explained, as are the phases

of the moon. Other lunar phenomena explained by special cinematography and animation are: the moon's orbit; the lunar month; sunrise and sunset on the moon; occulation of stars; the moon's path in space; lunar eclipses; and solar eclipses with special reference to the eclipse of 1932. jh-sh-c Guide

Solar family. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1936 Erpi **520 So**

In this picture the evolution of the solar system is revealed according to the planetesimal hypothesis. This is followed by a portrayal of the real and apparent motion of the planets. Among the special phenomena presented are: the phases of Venus; retrograde motion of Mars, Jupiter and its satellites; the apparent motion of Saturn's rings; orbits of the planetoids, Eros and Anteros; orbit of Halley's comet; and the motion of the solar system in space. jh-sh-c Guide

***Through** Galileo's telescope & Mt. Wilson observatory. (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **520 Th**

Originally produced by Pathe and reedited in 1936 for this series.

Pictures of Galileo and the optic tube, invented by a Dutch spectacle maker. His trial for heresy and his final defiance, 'And yet it moves'. In contrast to the crude optic tube of Galileo, we see the world's largest telescope and how it is operated. We see sun spots and their size in relation to the earth and solar prominences 150,000 miles high.

sh-c

***Tidal** theory of the earth's and moon's creation, and the moon in close-up. (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **520 Ti**

Originally produced by Pathe and reedited in 1936 for this series.

A graphic description of the earth's evolution with animated drawings showing this evolution according to the tidal theory as compared to the outworn nebular hypothesis. We see how the pull of gravity of a passing star caused tidal explosions in the sun that resulted in the birth of the earth and her sister planets, and the earth's change from her gaseous state of five billion years ago into the shrunken solid form she is now. There follows the story of the birth of the moon and what is happening to it. A series of closeup pictures of the moon, taken at the McMath-Hulbert Observatory, are said to be the only ones of their kind ever taken.

sh-c

530 PHYSICS

Energy and its transformations. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1933 Erpi **530 En**

By Dr. Harvey B. Lemon and Dr. Hermann I. Schlesinger of the University of Chicago.

Potential, kinetic and radiant energy, as manifested in mechanical, chemical, and thermal form, are vividly illustrated and explained. The principle of conservation of energy, and the concepts "power" and "work" are demonstrated in experiments. The film closes with a review of present and future sources of energy.

jh-sh Guide

534 Sound

Fundamentals of acoustics. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1933 Erpi **534 Fu**

By Dr. Harvey B. Lemon and Dr. Hermann I. Schlesinger of the University of Chicago, Dr. Harvey Fletcher of Bell Telephone laboratories, and Dr. Donald MacKenzie of Electrical research products, inc.

The phenomenon of hearing and the modification of sound between the source and the hearer are emphasized in this film. The specific elements explained or demonstrated are velocity of sound, refraction, range of hearing, lowring intensity, attenuation in air, eliminating high and low frequencies, reverberation and focussing of sound. Extensive use is made of animation and sound effects. The film concludes by indicating advances in communication which have resulted from combining our knowledge of sound and of electricity.

jh-sh Guide

Sound waves and their sources. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1933 Erpi **534 So**

By Dr. Harvey B. Lemon and Dr. Hermann I. Schlesinger of the University of Chicago, Dr. Harvey Fletcher of Bell Telephone laboratories, and Dr. Donald MacKenzie of Electrical research products, inc.

This film demonstrates and explains several types of sound sources. The transmission of sound waves through the air is clearly visualized. The characteristics of sound waves, such as frequency, amplitude, wave length, fundamentals, harmonics, are vividly explained visually with acoustic accompaniment. The high-speed camera, animation, sound effects, and an oscilloscope are used to clarify these phenomena of sound.

jh-sh-c Guide

535 Light

Light waves and their uses. 10min 16-sd-$1.50 1937 Erpi **535 Li**

This elementary presentation of light includes a comprehensive explanation of the principles of reflection with plane, concave, and convex mirrors. Refraction is clearly revealed in connection with the lenses and with special reference to the human eye. The principles and applications of interference are vividly portrayed. This is followed by interesting sequence on polar screens, the electromagnetic spectrum, the quantum theory. Animation is employed extensively to visualize otherwise intangible processes.

sh-c Guide

536 Heat

Thermodynamics. (Physical science ser.) 11min 16-sd-$1.50 1938 Erpi **536 Th**

Suited for science survey courses and physics instruction at the high school and junior college levels. Pictorial sequences deal with selected heat phenomena in advanced form. Molecular action in heat transfer, phenomena of combustion, mechanics of the steam engine, steam turbine, automobile and Diesel engines are explained in detail. The first and second laws of thermodynamics are explained. Natural and animated photography vitalize the concepts involved which are associated as frequently as possible with life situations.

sh-c Guide

537 Electricity

Electrons. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1937 Erpi **537 El**

By means of various photographic techniques, including animation, the hypothesis that electricity consists of unit elementary charges is supported by observation of phenomena

associated with the conduction of electricity in liquids, gases, and vacuums. The conclusion drawn is that the fundamental unit of an electrical charge is the electron.

jh-sh-c Guide

Electrostatics. (Univ. of Chicago physical science ser.) 11min 16-sd-$1.50 1933 Erpi **537 ElS**

By Dr. Harvey B. Lemon and Dr. Hermann I. Schlesinger, of the University of Chicago.

Deals with static electricity as fundamental to an understanding of the modern theories of electricity. It explains how positive and negative electrification are produced and by animated drawings shows the part played by insulators and conductors. Natural photography supplemented by animation gives a remarkable exposition of the movement of charges in the electroscope, the Compton electrometer, the static machine, and Nature's display of static electricity, lightning.

jh-sh Guide

538 Magnetism

Electrodynamics. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1936 Erpi **538 El**

The fundamental principles of current electricity and electromagnetism are presented by animated drawings. Direct photography is used throughout to demonstrate cause and effect, while antimation explains it. Among the concepts presented are: Galvani's discovery of current electricity; magnetic field about a current carrying wire; magnetic field of a coil; electromagnets; Rowland's experiment; magnetic hypothesis; recalescence; induction by a magnet; A. C. generator; D. C. generator; induction by an electric current; and transformers.

jh-sh-c Guide

539 Molecular physics

Molecular theory of matter. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1932 Erpi **539 Mo**

By Dr. Hermann I. Schlesinger and Dr. Harvey B. Lemon of the University of Chicago.

Evidence of molecular activity in gases, liquids, and solids is presented in support of the molecular theory of matter. Animated drawings explain such phenomena as the diffusion of gases, the evaporation of liquids, and the transformation of liquids into solids, in terms of the theory. Among the features of the film are the machine gun illustration of force exerted by molecules in motion, and the microscopic view of the Brownian movement, direct evidence of molecular motion.

jh-sh-c Guide

540 CHEMISTRY

Catalysis. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1937 Erpi **540 Ca**

Catalysis is another factor that affects the velocity of many chemical reactions. The film presents explanations of several phenomena associated with catalysis, among them, concentration by absorption, activation by absorption, intermediate compounds in a homogeneous mixture, chain reactions, breaking of reaction chains, poisoning of catalysis, and negative catalysis of inhibitors. The practical examples used as a basis for some of the explanations are rubber and anti-knock gasoline.

jh-sh-c Guide

Colloids. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1938 Erpi **540 Co**

A pictorial portrayal of colloidal suspensions. Among the representative examples of colloidal suspensions illustrated are: fog (liquid in gas), whipped cream (gas in liquid), clay and india ink (solid in liquid), smoke (solid in gas), and mayonnaise (liquid in liquid). Failure to settle is explained by Brownian Movement protective films, and charges on particles. The Cottrell process of smoke precipitation concludes the presentation.

sh-c Guide

Electrochemistry. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1937 Erpi **540 El**

This picture portrays the electrolytic decomposition of hydrogen chloride and the production of electric current from the action of chlorine and hydrogen on platinum. An explanation of the storage battery integrates both processes. Electro-plating illustrates participation of electrodes; electrorefining illustrates preferential discharge; and electrolysis of sodium chloride to yield caustic soda illustrates participation of the solvent. The production of aluminum from a molten electrolyte concludes the subject.

jh-sh-c Guide

Oxidation and reduction. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1932 Erpi **540 Ox**

By Dr. Hermann I. Schlesinger and Dr. Harvey B. Lemon of the University of Chicago.

The simultaneous process of oxidation and reduction is presented first by burning phosphorous and rusting iron under experimental conditions. Mercury rust is then decomposed to discover the component of air responsible for oxidation. Other examples of oxidation and oxidizing agents follow. The process of reduction is strikingly presented in the operation of the blast furnace, magnesium burning in dry ice, and thermite welding. Everyday examples of oxidation and reduction conclude the picture.

jh-sh-c Guide

550 GEOLOGY

551 Physical geography

Earth's rocky crust. (Harvard univ. natural science ser.) 10min 16-sd-$1.50 1931 Erpi **551 Ea**

This film presents Geology in its dynamic aspects and aims to show that forces now changing the face of the earth are responsible for its present appearance. The basic fact of geology—the building up and breaking down of rocks and land forms—is graphically shown through presentation of the water cycle, the formation of rocks, and the crumbling of rocks. Animated diagrams, models and illustrative scenes are used in the film to present more clearly the subject matter.

jh-sh-c Guide

551.2 Earthquakes. Volcanoes

Volcanoes in action. (Univ. of Chicago physical science ser.) 10min 16-sd-$1.50 1935 Erpi **551.2 Vo**

Supervised by Dr. Carey Croneis.

Throughout the history of man, volcanic phenomena have stimulated man's imagination. Today we realize, and this film demonstrates that even frightful volcanic phenomena operate in accordance with natural laws. The sound film presents by photography evidence

of past volcanic action. Animated drawings combined with photography explain many of the more important phenomena of volcanism such as dikes, sills, laccoliths, metamorphism; the products of volcanism including lava, cinder, and ash; causes and distribution of active volcanoes throughout the world.

jh-sh-c Guide

551.3 Erosion

Wearing away of the land. (Harvard univ. natural science ser.) 10min 16-sd-$1.50 1931 Erpi **551.3 We**

Several important processes which result in the wearing away of the land at one place and the building up at another are vividly shown in this film. Scenes taken all over the world show processes and formations which succinctly tell the story. How the land is affected by chemical decomposition of rocks, glaciers, wind and waves is presented. Scenes at Carlsbad Cavern illustrate the formation of caves, and animated diagrams and aerial views show how the coast line is changed by the waves of the ocean.

jh-sh-c Guide

Work of the atmosphere. 11min 16-sd-$1.50 1935 Erpi **551.3 Wo**

This film reveals the numerous ways in which the atmosphere plays a part in altering the earth's surface. The picture shows how temperature variations and winds disintegrate rocks. The movement of sand, loess, dust, and volcanic dust over great distances on the earth's surface is dramatically visualized. Then follows an explanation of the formation of soil and its significance.

sh-c Guide

551.31 Glaciers

Geological work of ice. (Univ. of Chicago physical science ser.) 11min 16-sd-$1.50 1935 Erpi **551.31 Ge**

The sound film opens with a survey of significant but often overlooked examples of the gradational work of ice. Animated drawings are employed to explain the action of phenomena that cannot be demonstrated photographically. The major portion of the film is devoted to the story of glaciers, the types of glaciers, the formation of glaciers, glacial movement, gradation and transportation by glaciers, topographical results of glacial activities as evidenced by moraines, eskers, striated and grooved rocks, cirques, hanging valleys and fjords; and finally the Pleistocene ice age.

jh-sh Guide

551.4 Surface features of the earth

Mountain building. (Univ. of Chicago physical science ser.) 11min 16-sd-$1.50 1935 Erpi **551.4 Mo**

Supervised by Dr. Carey Croneis.

By employing animated drawings and models "Mountain Building" reenacts significant events in geological history. The subsidence of the land about the mouth of the Hudson River, the story of the Appalachian Mountains, and the spectacular Lewis Overthrust in the Rocky Mountains, are vividly portrayed. The film opens with a photographic survey of evidence which constitute the basis of these interpretations, and closes with a consideration of the significance of these phenomena to mining and structural engineering.

jh-sh-c Guide

551.48 Rivers

Work of rivers. (Univ. of Chicago geology ser.) 11min 16-sd-$1.50 1935 Erpi **551.48 Wo**

By Dr. Carey Croneis, professor of geology, University of Chicago.

This film presents dramatically, yet simply, the erosion cycle of water on the earth's surface. The main story is introduced with a brief portrayal of the water cycle in nature. The main story is integrated by motion picture, specially taken for the picture, presenting examples from many parts of the country. Models and animated drawings are employed to explain such special features as Niagara Falls, deltas, meanders, ox-bow lakes, rejuvenated rivers, lakes, water gaps and sand bars.

sh-c Guide

Work of running water. (Harvard univ. natural science ser.) 10min 16-sd-$1.50 1931 Erpi **551.48 WoW**

This film displays and analyzes the activities of the most effective agent of erosion—running water. Models and scenes from all parts of the world show how running water wears away the land. Many picturesque results of erosion are analyzed. To illustrate stream deposits there is included an unusually complete sequence on the formation of deltas and flood plains. This is splendidly illustrated by sand table models and aerial scenes of the Mississippi bottom lands.

jh-sh-c Guide

551.49 Ground water

Ground water. (Univ. of Chicago physical science ser.) 11min 16-sd-$1.50 1935 Erpi **551.49 Gr**

The story of ground water as revealed in the sound film indicates its importance in changing the earth's crust. The picture brings to attention many phenomena that take place below the surface of the earth. Artesian wells, springs, water table, caves, and wells, are explained by animated drawings and illustrated photographically. Other phenomena such as geysers, springs, sink holes, petrifaction, concentration of useful minerals, and geode fillings, are explained and illustrated by outstanding examples in the United States.

jh-sh Guide

551.5 Meteorology

Clouds. 1R 16-sd-$.50 1939 U. S. agric. **515.5 Cl**

Types of clouds and how they are formed; their significance in forecasting weather conditions.

570 BIOLOGY

571 Archeology. Prehistoric and primitive man

Looking back through the ages. 1½R 16-si-$.50 1935 National park serv. **571 Lo**

A detailed presentation of the archaeological story of Cliff Dwellers who formerly inhabited Mesa Verde.

el-jh-sh-c Guide

Visit to Mesa Verde national park. 1¼R 16-si-$.50 1935 National park serv. **571 Vi**

This beautiful film presents the scenic wonders in "Mcsa Verde." Many scenes show remains of Cliff Dwellings which are some of the best preserved and most extensive in America.

el-jh-sh-c Guide

574 Physiologic biology

Reactions in plants and animals. (Harvard univ. natural science ser.) 11min 16-sd-$1.50 1931 Erpi **574 Re**

After first characterizing the concepts of "stimulus" and "reaction," the film presents a study of different types of reactions in plants and animals. Directed reactions in a field of force (tropisms) are studied first; then higher reactions including reflexes and chains of reflexes lead up to a review of nervous system activity. Such reactions as geotropism, phototropism, stereotropism, galvanotropism, and rheotropism are studied in detail. Time-lapse photography is employed to illustrate geotropism (response to gravity).

jh-sh-c Guide

580 BOTANY

581 Physiologic botany

Leaves. (Natural science ser.) 10min 16-sd-$1.50 1936 Erpi **581 Le**

The film first suggests the significance of leaves to all life forms. Then animated drawings are employed to show the relationship of plant leaves to the other parts of a plant —roots, stems, and flowers. There is a rapid survey of several common types of leaves of the essential parts of the typical leaf. Throughout the body of the film, microscopic views reveal cross-sections of leaves, thereby, showing the arrangement of the leaf parts and the process of the leaf. Animation is used to explain photosynthesis. In conclusion, the film reveals several plant structures which are essentially modified leaves.

el-jh-sh-c Guide

Plant growth. (Harvard univ. natural science ser.) 10min 16-sd-$1.50 1931 Erpi **581 Pl**

This film is a remarkable presentation of the growth of the pea plant. It shows by time-lapse photography and micro-photography the entire story from the time the seed first sends out its roots and stalk until the ripened seeds are scattered. The process of pollination and fertilization are vividly portrayed by means of photography and animation, while the accompanying narrative clarifies this mysterious process.

el-jh-sh-c Guide

Roots of plants. 10min 16-sd-$1.50 1931 Erpi **581 Ro**

The various forms of plant roots arc first presented. Then time-lapse and micro-photography are employed frequently in the remainder of the picture to bring out the interesting processes of growth, structure and other characteristics. The functions of the root-cap and the root-hairs are vividly presented. An experiment in osmosis is demonstrated and carefully explained, followed by an animation of water absorption by the roots.

jh-sh-c Guide

Seed dispersal. 10min 16-sd-$1.50 1931 Erpi **581 Se**

The film presents many interesting ways by which seeds of plants are scattered in order to insure the propagation of the species. The methods illustrated include dispersal by the

wind, transportation by animals, and forceful propulsion from the seed-case. The dramatic value of these examples is increased by the use of time-lapse photography. Attention is given to the germination of seeds under various conditions. The struggle for survival in the plant world is vividly portrayed.

jh-sh-c Guide

581.5 Carnivorous and insectivorous plants

Plant traps. 10min 16-sd-$1.50 1931 Erpi **581.5 Pl**

Carnivorous plants have the unusual characteristics of entrapping and digesting insects and other small animals. The film shows how the pitcher plant lures insects to its trap, where they drown. The sun-dew, another carnivorous plant, is shown throughout its life cycle. The enfolding of insects by its leaf tentacles is presented very impressively by means of time-lapse photography. The picture presents many unusual, interesting scenes.

jh-sh-c Guide

583 Flowers

Dodder. 10min 16-sd-$1.50 1931 Erpi **583 Do**

The entire life story of the dodder, one of the best known of the group of parasitic flowering plants, is shown by means of time-lapse photography, accompanied by an explanatory narrative. Among the more impressive features is the presentation of the dodder twining about the host plant. Animation aids in revealing details in the structure and operation of the suckers. The destructive character of this plant is demonstrated, as well as the beauty of the flowers.

el-jh-sh Guide

Flowers at work. 10min 16-sd-$1.50 1931 Erpi **583 Fl**

The parts and the physiology of plant flowers are artistically presented by animation. Time-lapse photography interspersed with animation then presents various types of flowers and different methods of pollination. Every important step is carefully covered in the narrative. The relation of insects to cross-fertilization of flowers is clearly illustrated. The picture closes by showing how man has modified the form of flowers by cultivation.

el-jh-sh Guide

589.2 Fungi

Fungus plants. 10min 16-sd-$1.50 1931 Erpi **589.2 Fu**

Major emphasis is given to the various mushrooms whose growth and reproduction are illustrated by time-lapse photography and animation. Molds and other fungi are also presented by these same techniques. The economic importance of these plants is definitely shown by both the photography and the narrative in their use as food, their destruction of dead organic matter and their cause of disease in plants. The picture has an unusual aesthetic appeal.

el-jh-sh Guide

589.95 Bacteriology

Man against microbe. 15min 16-sd-$.50 1932 Metropolitan life **589.95 Ma**

Covers three hundred years of progress in public health and medicine. It reveals Van Leeuwenhoek, the first man to see microorganisms through a microscope; Pasteur, with his new way of killing germs by heat and fighting other germs with vaccines. Lister demonstrates the third means of destroying germs—carbolic spray. The discoveries made by Robert Koch and Emile Von Behring are also shown.

jh-sh

590 ZOOLOGY. ANIMAL LIFE

*Mites and monsters. 2R 16-sd-$3.00 Gutlohn **590 Mi**

Produced by Strand films.

Showing the relationship between different types of animals, starting with the atom and finishing with the whale.

591 Physiologic zoology

591.5 Habits and behavior of animals

Animals of the zoo. 10min 16-sd-$1.50 1933 Erpi **591.5 An**

Feeding time at the Zoo! This gives a splendid opportunity to see not only the animals themselves, but the different kinds of food they eat. For some of the animals the zoo has reproduced the conditions of their native homes. Among the film stars are the lion, tiger, eland, giraffe, bison, hippopotamus, rhinoceros, elephant, monkeys, sea lions, and the bears—brown, black and polar.

el Guide

*Playtime at the zoo. (Secrets of nature ser.) 10min 16-sd-$1.50 1937 Gutlohn **591.5 Pl**

Produced by British instructional pictures, ltd., England, 1930.

Animals are seen disporting themselves at the zoo. Among those shown are marmots, seals, lion cubs, a honey bear, penguins, polar bears, a wolf cub and a baby elephant.

el

Wee Anne visits the zoo. (Wee Anne ser.) 15min 16-si-$1.00 1936 Cinegraphic **591.5 We**

A little girl visits the zoo and sees foxes, peacocks, penguins, zebras, bison, deer, porcupines, prairie dogs, camels, elephant, tapir, otter, bears, polar bears, seals, pelicans, tigers, ducks, birds, gorillas, orang-outang. All of the animals are shown with close-up views. A nature study film.

ps-el

*Zoo babies. 14min 16-sd-$1.50 1938 Gutlohn **591.5 Zo**

A picturization of the feeding and play activities of reptiles, birds, and animals. Not a complete repertoire of the zoo but representative specimens. Among those seen are fat-tailed Egyptian mice, gerbilles, jerboas, kangaroos, alligators, hippopotamus, puma, snakes, Indian and African elephants, terrapin, sea lions, walrus, llama and lions.

ps-el-jh-sh-c

591.57 Means of protection

How nature protects animals. 10min 16-sd-$1.50 1931 Erpi **591.57 Ho**

This film presents and describes various ways by which animals are provided with devices to conceal themselves, either for the purpose of protection, or as a means of securing food. Examples are given of natural protection through fleetness of foot, mimicry, protective coloration, armor and secluded homes. Included in the picture are the rabbit, raccoon, giraffe, tiger, lion, zebra, goat, pheasant, looper caterpillar and the beehawk moth.

el-jh-sh Guide

591.9 Geographic distribution of animals

***Denizens** of the Colorado desert. 12min 16-sd-$1.50 1936 Hollywood film enterprises **591.9 De**

The strange animal, reptile, and scenic phases of the Colorado Desert, and the life of an old desert prospector in his quest for gold, with his burrows and dog companions—an exciting fight between the dreaded Hydrophobia skunk and badger; a 6 foot rattler in action; the rare ringed tailed cat; desert chipmunks; a seldom seen sidewinder rattler and other interesting wild life. Original score music.

el-jh-sh

591.92 Marine and fresh-water fauna

Beach and sea animals. 10min 16-sd-$1.50 1931 Erpi **591.92 Be**

By Dr. G. Clyde Fisher, of the American museum of natural history.

Among the animals brought to the screen are the starfish, sea-urchin, crab, cuttlefish, octopus, crayfish, lobster, shrimp, snail, scallop, and the sea-cucumber. The physical structure and activities of these animals are presented in an intimate way. The balance in nature or interrelations of various animals is clearly illustrated, special emphasis being placed on their methods of protection. The picture is one of unusual interest.

el-jh-sh-c Guide

***Neptune's** mysteries. (Struggle to live ser.) 10min 16-sd-$1.50 1936 Gutlohn **591.92 Ne**

The camera descends into the watery depths of the sea to penetrate a mysterious realm of countless wonders. A great variety of snails are shown in the various stages through which this species of marine life passes before the adult stage is reached. There is then a thrilling battle between two octopi.

Pond insects. 10min 16-sd-$1.50 1932 Erpi **591.92 Po**

This film presents the dividing water beetle, the mayfly, and the dragonfly, as representative of this group of insects. Their life cycles are portrayed, as well as their food habits and struggle for existence. Among the events shown are the method by which the diving beetle lays its eggs; a water beetle larva attacking a large tadpole; the mayfly molting after acquiring wings; the mayfly hiding from its enemies; and the remarkable mask of the dragonfly nymph.

jh-sh-c Guide

Tiny water animals. 10min 16-sd-$1.50 1931 Erpi **591.92 Ti**

The life processes and activities of amoebae and paramecia are shown. The activities of the amoebae are given major emphasis. Reproduction of amoebae is presented on the screen. The film also reveals other interesting creatures, such as the wheel animalcule, chiloden, swan animalcule and stentor. Micro-photography makes this an unusually interesting picture. Only through motion pictures can such material be presented and clearly demonstrated to large groups.

sh Guide

595 Articulates

595.3 Crustacea

***Hermits of Crabland.** (Struggle to live ser.) 10min 16-sd-$1.50 1936 Gutlohn **595.3 He**

Many different forms of crabs, each distinctive in shape and characteristics, are shown. How this form of marine life exists, protects itself from enemies, feeds itself and raises its young is shown in microscopic detail.

sh-c

595.4 Spiders

Spiders. 10min 16-sd-$1.50 1931 Erpi **595.4 Sp**

The nursery-web, the orb-web, the funnel-web, and the trap-door spiders appear in this picture. The complete life cycle of the first is presented, while the peculiar habits and characteristics of the others are shown. The construction of an orb-web is shown through every step of the procedure. The retreat of the trap-door spider is explained and illustrated pictorially. After showing the spiders as home builders there are scenes demonstrating their prowess as hunters or providers.

jh-sh-c Guide

595.7 Insects

Aphids. 10min 16-sd-$1.50 1933 Erpi **595.7 Ap**

This film deals with a very interesting creature. It shows that most aphids have no fathers or even grandfathers. Some are born alive, while others hatch from eggs; only a few have wings. Ants keep them as cows, while the aphid itself secures its food in an unusual way. It is beset by a host of enemies, among which is man. These scenes are supplemented by an animated drawing of the aphid's life cycle. It is an excellent picture of a little-known creature.

el-jh-sh-c Guide

Cicada. 20min 16-sd-$1.00 1937 U. S. agric. **595.7 Ci**

This is the life history of the 17-year locust. Through the use of time-lapse photography the shedding of the skin in several different stages of growth is shown. The final transition from the pupal stage to the winged insect is clearly explained and pictured. The egg-laying process is explained, and the young cicadas are shown hatching from the eggs and dropping to the ground to begin their larval stage underground. There is unusual cinematography of an unusual subject.

el-jh-sh-c

595.76 BEETLES

Beetles. 10min 16-sd-$1.50 1931 Erpi **595.76 Be**

In this picture, the complete life histories of the tiger, ladybird and Japanese beetles are vividly revealed on the screen. Many rarely observed events in their lives are presented; some comic, some tragic. The economic relation of beetles to man is definitely brought out. Picture and narrative demonstrate how some beetles have been pressed into the service of man, while others are harmful and must be destroyed through ceaseless warfare carried on by man.

jh-sh-c Guide

595.77 FLIES

House fly. (Natural science ser.) 10min 16-sd-$1.50 1935 Erpi **595.77 Ho**

The film tells the complete story of this common but extremely dangerous pest. The four stages of the fly's life cycle are shown—egg, larva, pupa, and adult. Its activities as a carrier of disease germs are presented vividly. The picture illustrates effective means for eliminating the fly menace. Special emphasis is laid on community action. This film is highly recommended for use in health education as well as in science.

el-jh-sh-c Guide

595.771 MOSQUITOES

Mosquito—public enemy. 2R 16-sd-$1.00 1935 U. S. agric. **595.771 Mo**

A Bureau of entomology and plant quarantine film.

Discusses the mosquito as a pest, affecting man and beast, varieties and life history, safeguards, and methods of control. Introduction by L. O. Howard, Chief, Bureau of Entomology.

595.78 BUTTERFLIES. MOTHS

Butterflies. 10min 16-sd-$1.50 1931 Erpi **595.78 Bu**

Illustrates the complete life history of the cabbage butterfly and the swallow-tail butterfly with their different characteristics and habits, including their role in nature, that of aiding in the cross-fertilization of flowers. Time-lapse photography is employed to show in a few seconds processes which require an hour or more. The destructiveness of the cabbage butterfly, as well as its unusual control by a natural enemy, is dramatically depicted.

el-jh-sh Guide

Moths. 10min 16-sd-$1.50 1931 Erpi **595.78 Mo**

A large silk moth and the white-masked tussock moth are followed in detail through their life histories. The silk moth caterpillar is shown at work on the construction of its unusual cocoon. The secluded life of the female tussock moth is revealed. All the steps in their life cycles are portrayed. Attention is called to their economic importance.

jh-sh Guide

595.796 ANTS

***Underground farmers.** (Struggle to live ser.) 10min 16-sd-$1.50 Gutlohn **595.796 Un**

This film presents the story of the busy life of ants with an economy of time yet with sufficient completeness. The society of ants is photographed in the forests of equatorial South America. The microscopic lens reveals these minute creatures in a display of industry and organization that is a wonder to behold.

el-jh-sh-c

597.8 Toads. Frogs

Frog. (Harvard univ. natural science ser.) 10min 16-sd-$1.50 1931 Erpi **597.8 Fr**

The frog, as the most representative amphibian, is here picturized. The entire life cycle of the frog is presented, aided by many stop-motion scenes and microscopic views.

The development of the embryo is thus brought to the screen in a continuous scene of only a few seconds. The several changes taking place in the tadpole stage are carefully portrayed by picture and narrative. Slow-motion photography demonstrates the graceful movements of the frog in jumping.

el-jh-sh Guide

598 Reptiles. Birds

598.2 Birds

Thrushes and relatives. (Biological science ser.) 11min 16-sd-$1.50 1938 Erpi **398.2 Th**

This picture provides an understanding of bird life in general. The hatitats, feeding habits, brooding, development and activities of the Bushtit, Chickadee, Hermit-Thrush, Russet-backed Thrush, Robin, Bluebird, and Water Ouzel are revealed by spectacular photography. Natural sounds of the different bird calls and songs render the production unusually valuable as an instructional aid. It is of interest to students of all ages and and contributes materially to a better understanding and appreciation of birds and their value to mankind. Animated drawing visualize habitats and migration.

el-jh-sh-c Guide

599 Mammals

Adventures of Bunny Rabbit. (Primary grade ser.) 11min 16-sd-$1.50 1937 Erpi **599 Ad**

The characteristics and habits of rabbits in their natural environments are presented . . . Mother Gray Rabbit with her newly born young in their rabbit burrow; Mother Rabbit feeding; White Rabbit from one farm visiting; Gray Rabbit; Fox pursuing Gray Rabbit to her burrow; Fox unable to get into burrow; young older; Bunny Rabbit decides to go out for adventure; Bunny's experiences with Frog, Squirrel and Turtle in woods; Bunny's experiences on the farm with Cows, Chicks, Puppies, Turkeys. Bunny finds lettuce in greenhouse; farmer puts Bunny into doll house; Bunny runs back to woods.

Teaching helps to accompany film:—Introductory manual: Educational sound films in the primary grades; Primary grade teachers' handbook: Rabbits and hares.

el-jh

*__Beach__ masters. (Struggle to live ser.) 10min 16-sd-$1.50 1936 Gutlohn **599 Be**

Each spring countless thousands of seals come from all parts of the Pacific Ocean to gather on the rocky shores of the Mist Islands in the Bering Sea and bring forth their young. The camera has followed this yearly migration.

Gray squirrel. (Primary grade ser.) 11min 16-sd-$1.50 1938 Erpi **599 Gr**

One spring morning, Mrs. Gray Squirrel is seen scampering through the woods to her home in an old oak tree. Here she nurses her three babies, then one week old. Three weeks later, the three little squirrels are seen learning to play and climb. Mrs. Squirrel then builds a new summer home higher up in the oak tree. When the babies are two months old, they climb with their mother to the new nest. In another month, they are seen climbing about more easily and doing acrobatics. At six months of age, the squirrels are almost full grown and demonstrate their ability to crack and eat acorns. The film concludes with a winter sequence in which one of the squirrels engages in a thrilling race with a red fox.

el Guide

600 USEFUL ARTS

610 MEDICINE

611 Anatomy

Muscles. 15min 16-si-$1.00 1931 Eastman **611 Mu**

The structure and the use of muscles is strikingly presented by means of actual photography and animations. The film may be used, not only to teach the facts involved, but also to provide a fresh approach to the consideration of habits of exercise and posture. Structure and properties of muscles. Muscles in action.

el-jh-sh-c Guide

612 Physiology

612.1 Blood and circulatory system

Heart and circulation. (Univ. of Chicago biological science ser.) 10min 16-sd-$1.50 1937 Erpi **612.1 He**

This production deals with the mechanics of the pulmonary and systemic systems. Delineation of the heart action is shown by animation and natural photography. Amplified heart beat sounds and microscopic scenes of capillary action render the picture spectacular. Blood pressure and its relation to health is also vividly portrayed.

jh-sh-c Guide

612.2 Respiration

Mechanisms of breathing. (Univ. of Chicago biological science ser.) 10min 16-sd-$1.50 1936 Erpi **612.2 Me**

In this picture the breathing mechanism in operation is revealed. Technical animation portrays gaseous exchange in the lungs and body tissue cells, including pathological conditions. A demonstration of artificial respiration is provided. By means of animation and photography the nervous control of breathing and factors affecting rate and depth of breathing are shown.

jh-sh-c Guide

612.3 Digestion

Alimentary tract. (Biological science ser.) 11min 16-sd-$1.50 1938 Erpi **612.3 Al**

Intended as a supplement to the instructional sound film 'Digestion of Foods', this picture treats in detail motility phenomena of the gastro-intestinal tract. Apparatus used in studying motility of the tract is demonstrated. Actual photography reveals different types of movements in the stomach, such as hypermotility, inhibition, antiperistalsis, hunger contractions, and normal movements. Segmentation, and peristalsis of the intestines are vividly portrayed. Motility of intestinal villi is clearly shown in microcinematography. Colon motility in the dog and cat is observed in the processes of antiperistalsis.

jh-sh-c Guide

Digestion. (Univ. of Chicago biological science ser.) 10min 16-sd-$1.50 1937 Erpi **612.3 Di**

In this film both the mechanical and the chemical aspects of digestion are presented, together with their controlling factors. Among the mechanical processes included are mastication, swallowing, stomach contractions, intestinal segmentation, and intestinal peristalsis. Among the chemical processes presented are the production of saliva and the action of ptyalin on starch, the production of gastric juice and the action of pepsin on albumin, and the production of pancreatic juice and the action of lipase on fats.

jh-sh Guide

612.8 Nervous system

Nervous system. (Univ. of Chicago biological science ser.) 10min 16-sd-$1.50 1937 Erpi **612.8 Ne**

The structure of the nervous system, together with its pathways and connections is depicted. The nature of the nerve impulse; conditions for setting up impulses; their passage from cell to cell; their discharge and resultant activity are shown along with reflexes, sensory integration, and finally, activity of the cerebrum.

jh-sh-c Guide

613 Hygiene

Body defenses against disease. (Univ. of Chicago biological science ser.) 10min 16-sd-$1.50 1937 Erpi **613 Bo**

The film provides an exposition of the three lines of defense—the skin, phagocytic cells and lymphatics, and the blood, including a section on immunology. Spectacular microphotography of phagocytosis is shown along with applications of the defense mechanism in specific cases. The action of liver and spleen together with types of anti-bodies and their effects are dealt with.

jh-sh-c Guide

Posture. 15min 16-si-$1.00 1931 Eastman **613 Po**

Prepared in cooperation with the American posture league.

Demonstrated the effect of posture upon the size of the chest, the position of the abdominal organs, and general personal appearance. Shows how good sitting and standing posture may be developed.

el-jh-sh Guide

Working for dear life. 15min 16-si-$.25 1921 Metropolitan life **613 Wo**

Stresses in interesting story fashion the importance of having a thorough physical examination made annually.

el-jh-sh-c

613.9 Sex education. Social hygiene

Science and modern medicine. 3R 16-sd-$4.50 **613.9 Sc**

A new and up-to-date lecture on the nature of the diseases, syphilis and gonorrhea, the need for early competent treatment, the effects of the diseases when untreated, the possibilities of cure with proper treatment. The process of reproduction is also described. An American Social Hygiene film.

sh-c

614 Public health

614.8 Safety

First aid—care of minor wounds. 5min 16-si-$.50 1932 Eastman
614.8 FiW

This film stresses the importance of immediate care for even the slightest wound. Demonstrates in detail the proper method of applying sterile dressings.
jh-sh Guide

First aid—control of bleeding. 12min 16-si-$.75 1932 Eastman
614.8 FiB

Shows, with actual photography and animated diagrams, accepted methods of control of arterial and venous hemorrhage in various areas of the body.
jh-sh Guide

616 Pathology. Diseases

616.2 Diseases of the respiratory system

Conquest of diphtheria. 15min 16-si-$.25 1933 Metropolitan life
616.2 Co

Produced by Carlisle Ellis. Revision of a film first produced 1924.
Skipper, aged four, and the youngest member of an average American family, has fallen ill. As there are many cases of diphtheria in town, Dr. Simmons is called in. He finds that Skipper has only raided the family ice-box. However, precautions are taken and Skipper is given his first injection for diphtheria immunization. Dr. Simmons tells Skipper's mother of the days when his grandfather practiced medicine.
el-jh

616.24 TUBERCULOSIS

Behind the shadows. 15min 16-sd-$.50 1936 local Tuberculosis assn.
616.24 Be

A doctor explains to a group of high school boys and girls what tuberculosis is. As he speaks offstage, pictures, x-rays, and animated diagrams illustrate his story.
jh-sh-c

616.9 Syphilis

Three counties against syphilis. 19min 16-sd-$1.00 1939 U. S. public health serv. **616.9 Th**

Shows the fight that three counties in Georgia are waging against syphilis and other diseases. This film solves the problem of bringing medical aid to country areas.
sh-c

617.6 Dentistry. Care of the teeth

How teeth grow. 15min 16-si-$1.00 1930 Eastman **617.6 Ho**

Traces the development of teeth from infancy to adult life, showing their structure and arrangement. Animated drawings and models show the position of the teeth in the mouth.

Labels indicate the structure of a tooth and the nerves and blood vessels which surround it. Diagrams of development at successive ages show how teeth are formed and break through the gums in definite order. Actual photography of children is introduced to show the teeth in position at each age level. A complete temporary set of a six year old child is shown, and animations demonstrate how this temporary set is pushed out by the insistent permanent teeth.

Science makes a dentrifice. 15min 16-si-$.25 1937 General business **617.6 Sc**

Scientific laboratory and modern manufacturing development of tooth paste with world-wide travelogue scenes, scientific animation and microscopic action.

el-jh-sh Guide

617.7 Care of the eyes

Preventing blindness and saving sight. 20min 16-si-$.50 1930 Nat. soc. for the prevention of blindness **617.7 Pr**

Shows the causes of blindness, and the simple precautions which, if observed, will preserve the vision of many people.

jh-sh

620 ENGINEERING

621. Electricity. Applications

621.312 Central stations

Water power. (Human geography ser.) 10min 16-sd-$1.50 1937 Erpi **621.312 Wa**

The concept of potential power from water is introduced by the water cycle which furnishes a never-ending source of power. It is shown how rapids and waterfalls, by use of this, were changed from hindrances to aids to man's progress. The body of the picture traces the development of water power, chiefly in the United States, from the small mill of the early colonists to such modern projects as Niagara, Boulder Dam, and the Tennessee Valley. There is an informative sequence on the transformation of kinetic energy of the waterfalls into potential energy through the hydroelectric plant. The film concludes with a world-wide survey of potential water power.

sh Guide

627 Salvage

Man against the river. 10min 16-sd-$.50 1937 WPA **627 Ma**

Picture of the great Ohio valley flood of 1937. The camera records the rise of the waters in the upper valley, traces the path of the mighty flood to the mouth of the Mississippi, and provides a telling argument for proper flood control. Fire, famine and disease follow hard in the wake of the torrent. Then come the shock-troops of disaster—Works Progress Administration employees thrown into the breach to cooperate with other Federl agencies, local and state organizations in the work of rescue and rehabilitation.

jh-sh

629.1 Aeronautics

Air liner. 20min 16-sd-$3.00 1938 Donovin Miller **629.1 Ai**

By means of a trip from Los Angeles to San Francisco, the operation of the airlines is illustrated. A business man needs certain papers from his Los Angeles office so that he can catch the Hawaiian Clipper. It is 11 a. m. and the Clipper leaves at 2 p. m. He phones his secretary in Los Angeles, who catches a plane and brings the papers to him just as the Clipper takes off. Operation of the airports. Duties of the pilot, co-pilot, and hostess of the airliner are shown. The instrument boards of the airliner are explained. The picture ends with the Clipper taking off over the Pacific.

*__History__ of aviation. (Our world inreview ser.) 30min 16-sd-$4.50 1937 Gutlohn **629.1 Hi**

Originally produced by Pathe and reedited in 1936 for this series.

A comprehensive pictorial history of aviation from the first flight of the Wright Brothers at Kitty Hawk, N. C. to the epoch-making flight of the giant China Clipper.

Any reel may be had separately for $1.50.

jh-sh-c

629.2 Automobiles

Rhapsody in steel. 3R 16-sd-$1.00 Ford **629.2 Rh**

An impressionistic portrayal of the huge Rouge Plant of the Ford Motor Company—its men, machinery, and methods—with special musical background. Highly interesting and non-technical. There are frequent references to the Ford Motor Company, however, this film has use in the classroom to show the coordination of the various processes in the manufacture of an automobile.

jh-sh-c-trade

629.213 Safe driving

Child safety in traffic. 15min 16-si-$.25 1937 Films of Commerce **629.213 Ch**

Typical danger situations to children in street traffic interpreted by automobiles, the fronts of which turn into cartoon faces with titles coming out of their mouths telling of the toll being taken in children injured and killed by automobile accidents; warnings against careless practices in crossing, traveling, and playing in highways.

ps-el-jh

Once upon a time. 15min 16-sd-$.50 1934 Metropolitan life **629.213 On**

An animated cartoon with musical symphonies and shows a fairy-land setting used to emphasize the need of safety on the streets. Well-known fairy story and Mother Goose characters become involved in the present-day types of street and highway accidents through the machinations of two bad goblins—"Carelessness" and "Discourtesy".

el-jh-sh

630 AGRICULTURE

Wee Anne visits the farm. (Wee Anne ser.) 30min 16-si-$2.00 1936 Cinegraphic **630 We**

Wee Anne visits Stevie, the farmer's son. They ride on a hay rake; watch mowing machine; play on hay cocks; see Nellie, the farm horse, rabbits, chickens, pigs; help shock

the grain and tie it into bundles; play hide and seek in the grain shocks; feed baby kids with nursing bottle; bid good-bye to Rover, the dog. A picture of work and life on a farm.
el

630.973 Agriculture in the United States

Rain for the earth. 18min 16-sd-$1.00 1937 WPA **630.973 Ra**

Dramatic, swift-moving scenes tell a gripping story of man's struggles with the drought in the Great Plains. Farmers in distress turn from idleness to the work of building dams and reservoirs to conserve the rain when it falls.
jh-sh

Rain on the plains. 8min 16-sd-$.50 1938 U. S. agric. **630.973 RaP**

This film is mainly concerned with the Southern Great Plains. It shows huge herds of cattle grazing, the plowing up of the soil, destruction by winds, what the wind does to the soil, and sand drifts around homes and buildings. In May, 1934, the sun darkened over Washington, D. C., by dust blown from dry plains. When rain falls, the grass and crops grow abundantly. Shows conservation methods such as planting strips of wind-resisting crops, making land level and stabilizing with grass, leaving stubble on fields, planting trees to break sweep of wind.
sh-c

Salt of the earth. 30min 16-sd-$1.00 1937 U. S. agric. **630.973 Sa**

The farmer and the farm, as the basis of our civilization, and their contribution to national wealth and body politic. Of general interest. (Country life)
el-jh-sh-c

631 The farm

631.4 Soils

Grassland. 10min 16-sd-$.50 1938 U. S. agric. **631.4 Gr**

Discusses the problem of soil conservation on the grazing lands of the arid Southwest. Intersting photography of sheep and cattle on the range; approved methods of attack on the evils of overgrazing.

631.5 Farm operations

Balanced plenty. 1R 16-si-$.25 1938 U. S. agric. **631.5 Ba**

AAA farm program in the Northeast and East Central regions. Usable elsewhere. Shows interdependence of agriculture and industry, farm surpluses, practices such as liming, terracing and woodlot improvement.

Plenty without waste. 1R 16-si-$.25 1938 U. S. agric. **631.5 Pl**

Animated cartoon portraying the AAA farm program in the Corn Belt. Usable elsewhere. Shows operation of the ever-normal granary for corn—acreage allotments, soil improvement, and conservation, storage loans—and how it affects farmers, consumers and businessmen.

632 Hindrances. Pests

632.7 Injurious insects

Grasshoppers. 2R 16-sd-$1.00 1939 U. S. agric. **632.7 Gr**

Life cycle and damage done by one of the most devastating pests. Shows control with poisoned bait and cultivation to kill grasshoppers before flying stage.

Mormon cricket. 2R 16-sd-$1.00 1939 U. S. agric. **632.7 Mo**

Shows life history, migration and damage done by this pest of Western agriculture. Control methods include use of metal barriers and oil barriers as a supplement to dusting with poison to save growing crops. During a single season the control operations resulted in affording protection from damage or a destruction by Mormon Crickets to over 1,350,000 acres of valuable crops.

633 Field crops

633.1 Cereals. Grain

***Korean rice fields.** 45min 16-si-$3.00 1937 Harmon found. **633.1 Ko**

This is a presentation of the struggle for existence as carried on by a typical Korean farmer. Primitive methods of rice planting, irrigation, and harvesting are shown, with unusual glimpses of home life, children, and characteristic festivities in Korea.

Our daily bread. 6½min 16-si-$.25 1938 U. S. agric. **633.1 Ou**

Animated cartoon, the AAA farm program in the Wheat Belt—operation of the ever-normal granary, acreage allotments, storage loans, crop insurance, and how it affects farmers, consumers and businessmen.

jh-sh

***Tambo.** 2R 16-si-$3.00 Harmon found. **633.1 Ta**

This study of rice fields creates a vivid understanding of the Japanese farmer and significance in the structure of contemporary Japan. All the processes of rice cultivation, still carried on by traditional methods, are shown, interspersed with scenes of farm life, tea-picking and silk culture. It is presented in newsreel style.

el-jh-sh-c

634 Fruit. Orchards

634.7 Small fruits

About Bananas. 15min 16-si-$.25 1935 Castle This film takes the place of an earlier one titled "Banana Land" **634.7 Ab**

Complete presentation of the banana industry from the clearing of the jungle and the planting to the shipment of the fruit to the American markets. Scenes laid in Central America. el-jh Guide

634.9 Forestry

Big game and the national forests. 1R 16-si-$.25 1933 U. S. agric. **634.9 Bi**

Brings out the relation of the national forests to the preservation of big game and discusses management problems. Deer, Moose, Elk, Antelope, Bison, and Bighorn are shown in the wild. Of general interest.

Marking timber. 2R 16-si-$.50 1926 U. S. agric. 634.9 Ma

The fundamentals of timber marking, using Western yellow pine in the Black Hills as an example. Primarily for students of forestry, but of interest generally from the standpoint of forest conservation.

Operation of a forest nursery. 1R 16-sd-$.50 1938 U. S. agric. 634.9 Op

Shows how tree seeds are gathered and planted and how seedlings are cared for until ready to transplant in the open.

Tree of life. 25min 16-sd-$1.00 1938 U. S. agric. 634.9 Tr

Portrayal of how the forestry resources of the United States have been depleted to the extent that regulated cutting is now necessary on both public and private timber land. Animated graphs comparing early population and forest stands to those of the present. Illustrations of how unregulated and complete stripping of forest land leaves ghost towns and floods in its wake. Methods of conservation; National Forests produce permanent supply by means of selected cutting; fire protection by lookout towers. Indications of the need for selected cutting on private lands.

el-jh-sh-c

634.909 Civilian Conservation Corps

CCC accomplishments in Pennsylvania. 15min 16-sd-$.50 1935 Dept. of interior 634.909 CC

CCC work in the state and county parks of Pennsylvania with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic, and commercial features of the state.

el-jh

Changing empire. 10min 16-sd-$.50 Dept. of interior 634.909 Ch

CCC work in the state and county parks of Georgia with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic and commercial features of the state.

el-jh-sh-c

Cradle of the fathers of waters. 11min 16-sd-$.50 1935 Dept. of interior 634.909 Cr

This film of the Minnesota state park system shows the source of the Mississippi River, and gives some idea of the life, customs and manners of both the Indians and pioneers in this section. It also describes briefly the recreational and educational work of the Civilian Conservation Corps in connection with development of the state.

el-jh-sh-c

Day in Virginia Camps. 2R 16-si-$.50 Dept. of interior 634.909 Da

Scenic and CCC work record in Seashore, Westmoreland, Staunton River, Hungry Mother and Fairy Stone State Parks in Virginia. CCC camp life and recreation.

el-jh-sh-c

ECW in Great Smoky Mountains national park. 11min 16-sd-$.50 1936 Dept. of interior **634.909 Ec**

The work of the CCC in the national park which lies atop the purple high country of North Carolina and Tennessee with many scenes of the highest peaks east of the Mississippi. Mountain streams, wild flowers, and the life of the southern mountain people.

el-jh-sh-c

Evangeline's Haven of Peace. 1R 16-si-$.25 Dept. of interior **634.909 Ev**

Scenic and CCC work record in Longfellow-Evangeline Memorial Park, St. Martinville, Louisiana. Evangeline Oak, famous egret bird sanctuary, and other pictorial representations of country described in Longfellow's "Evangeline."

el-jh-sh-c

Forest playground. 12min 16-si-$.25 1935 U. S. Dept. of interior **634.909 Fo**

Civilian Conservation Corps work in improving public recreational facilities in Patapsco Forest, Maryland.

el-jh-sh-c

Land of ten thousand lakes. 22min 16-sd-$1.00 1936 Dept. of interior **634.909 La**

CCC work in north central and southern Minnesota with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic, and commercial features of the state.

el-jh-sh-c

Old lands—new use. 11min 16-sd-$.50 1935 Dept. of interior **634.909 Ol**

CCC work in the state parks of South Carolina with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic, and commercial features of the state.

jh-sh

Outdoors in the garden state, New Jersey. 20min 16-sd-$1.00 1935 Dept. of interior **634.909 Ou**

Beautiful shots of the scenery in New Jersey. Scenes of CCC camps are shown, and the picture explains the work of the Civilian Conservation Corps in beautifying the state park system of New Jersey.

el-jh-sh-c

Parks under the lone star. 10min 16-sd-$.50 1936 Dept. of interior **634.909 Pa**

CCC development under state parks in Texas with varied scenic views and an introductory history of the largest state in the Union.

sh-c

Pilgrim forests. 1R 16-sd-$.50 1935 Dept. of interior **634.909 Pi**

CCC work in the state and county parks of New England with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic, and commercial features of the states.

el-jh-sh-c

Saving the beauty of Alabama. 8min 16-si-$.25 1934 Dept. of interior **634.909 Sa**

Scenic and CCC work record in Geneva State Park, Geneva County, near Hacoda. Old Creek, Indian trails, reforestation and erosion control.

el-jh-sh

Sinews from the soil. 10min 16-sd-$.50 1935 Dept. of interior **634.909 Si**

CCC work on the north shore of Minnesota with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic, and commercial features of the State.

el-jh-sh-c

Summer ends in the Rockies. 12min 16-si-$.25 1935 Dept. of interior **634.909 Su**

A pictorial record of CCC work in Rocky Mountain National Park photographed in October, 1934.

el-jh-sh-c

Taming the desert. 15min 16-sd-$.50 1935 Dept. of interior **634.909 Ta**

CCC work in the state and county parks of New Mexico with a prologue and scattered sequences of atmospheric and location shots of important historic, topographic, civic, and commercial features of the State.

el-jh-sh-c

Trees and stones that speak. 11min 16-sd-$.50 1936 Dept. of interior **634.909 Tr**

Shows the Alabama Wiregrass Country—Chattahoochee State Park, near the Chattahoochee River—forest pine seeding, planting, etc. An outline of the turpentine industry is included, as are scenes of old Fort Morgan, near Mobile.

el-jh-sh-c

Water lure. 1R 16-sd-$.50 1935 Dept. of interior **634.909 Wa**

Scenic and CCC work record in Warm Springs and Indian Springs State Parks, Georgia. Theme—importance of medicinal waters in cultural and recreational development of a country. Atmospheric shots of Warm Springs Foundation.

el-jh-sh-c

Where trade winds blow. 1R 16-sd-$.50 1936 Dept. of interior **634.909 Wh**

The work of the CCC camps in St. Thomas and Saint Croix, Virgin Islands. The CCC camps in the Islands are engaged in the growing and planting of young mahogany and other tropical trees. The film includes pictures of the surrounding areas to show the need for reforestation and gives a few glimpses of the tropical situations in which these camps are located.

jh-sh

Winter sun and summer sea. 12min 16-si-$.25 20min 16-sd-$1.00 1935 Dept. of interior **634.909 Wi**

Scenic and CCC work record in Greynolds, Royal Palms, Highland Hammocks, and Myaaka Forest parks with amplified atmospheric interest through references to early history of Florida.

el-jh-sh-c

634.92 Forest fires

Fire weather. 20min 16-sd-$1.00 1936 U. S. agric. **634.92 Fi**

This film shows how the United States Weather Bureau gathers forest-fire weather data and distributes warnings of fire hazards.

el-jh-sh

Lest we forget. 1R 16-si-$.25 1935 U. S. agric. **634.92 Le**

A story of fire and flood-results in Southern California from a fire in the chaparral cover on the mountains followed by heavy rains.

jh-sh-c

Stop forest fires! 1R 16-sd-$.50 1936 U. S. agric. **634.92 St**

A general discussion of the problem of the forest fire, with striking scenes from recent major conflagrations is given. There are shown forest fire fighting, the death toll of large forest fires, the damage to forests, wildlife, and soil.

636 Domestic animals

Farm animals. (Primary grade ser.) 10min 16-sd-$1.50 1937 Erpi **636 Fa**

The care and activities of farm animals are presented in this film. Natural sounds are included. The film treats such subjects as feeding and milking cows, boy leading cows to pasture, feeding of calves, new-born calf, feeding horses, watering horses, colt feeding, feeding of pigs, currying and harnessing of horses, cows drinking and grazing in the pasture, cow chewing her cud, goat and kids feeding, sheep grazing, lambs feeding, and sheep shearing.

el-jh Guide

Three little kittens. (Primary grade ser.) 10min 16-sd-$1.50 1939 Erpi **636 Th**

Discovered in the barn with their mother by a farmer's wife these kittens provide an opportunity for learning about the characteristics of cats in general. When about two weeks old, the kittens are carried by their mother to a new home in an old buggy, where they learn to feed, clean themselves, and to play. Later they have a skirmish with a dog and learn to catch mice. Finally, two of the kittens are given to local tradesmen by the farmer's wife and the third kitten stays with his mother on the farm.

el Guide

636.5 Poultry

Poultry farm. (Primary grade ser.) 10min 16-sd-$1.50 1937 Erpi **636.5 Po**

The appearance and habits of adult and young chickens, ducks, geese and turkeys are presented in this film. The picture includes such subjects, with their natural sounds, as the following: chickens roosting, feeding and drinking; comparative appearance of hen and rooster; brooder house and chicks; gathering of eggs; incubation of eggs; egg embryos; chicks hatching; ducklings just hatched on outdoor nests; ducklings feeding and diving in water; goose, gander, and goslings; adult and young turkeys; and turkeys roosting in trees.

el-jh Guide

636.7 Dogs

Wee Anne's dog Sandy in just a dog's day. ½R 16-si-$.75 Cinegraphic corp. **636.7 We**

This is a simple story of what Sandy does during the day. He gets out of bed in his nightgown, has a morning dip, plays tag with Wee Anne, is dressed up, taken for a ride in the doll buggy, listens to the toy phonograph, says his prayers and goes to bed.

ps-el

639 Fisheries

Alaska's silver millions. 34min 16-sd-$1.00 1936 Am. can **639 Al**

Shows Alaska and its industries, especially the fascinating salmon industry. Shows the life cycle of the salmon, and methods of catching and canning salmon. A beautifully made instructional film on the subject of Alaska and salmon.

el-jh-sh-c Guide

Anne visits fish harbor. (Wee Anne ser.) 10min 16-si-$.75 Cinegraphic **639 An**

Anne and Bob watch Tuna Clippers come into the harbor. They meet an old sailor who shows them the boats, tells them how tuna fish are caught. Fishing scenes are shown on a tuna boat, and the unloading at the harbor.

el

Shell-fishing. (Human geography ser.) 11min 16-sd-$1.50 1938 Erpi **639 Sh**

An overview of the oyster, crab, clam, and lobster fishing industries on the eastern coast of the United States is provided by this production. Preparing the oyster beds, planting, dredging for mature oysters, and their preparation for market make up the oyster sequence. Luring crabs to their nets with baited lines, crab fishermen find to be both sport and work. Clam fishermen, under the supervision of conservation agencies, are revealed planting, harvesting, and preparing their crops for market in a manner similar to the methods of the oyster fishermen. Lobstermen, after dumping their catches from baited traps, take the lobsters to near-by factories where they are packed in ice or boiled for shipment and consumption.

el-jh-sh Guide

640 HOME ECONOMICS

Home demonstration work—what it is and does. 2R 16-sd-$1.00 **640 Ho**

This picture shows the scope of home demonstration work; representative scenes in various parts of the country.

jh-sh-c

650 BUSINESS

652 Typewriting

***Know** your typewriter. 3R 16-si-$4.50 Harmon found. **652 Kn**

A motion picture about the typewriter—what it is and how to use it. This film is designed to give clear-cut technical information on the typewriter and emphasis on typewriting as an art of today. The typewriter is shown as an integral part of our life today—in busines, in the professions, in trades, in schools, in the home. It makes clear

that typewriting, a "must" for office workers, may be a valuable skill for everyone who uses writing as a means of communication. The film demonstrated that it is essentially a device for transferring a type impression onto paper. Hands indicate what the keyboard, the carriage, platen, shift key, tabular stops and other parts are and where they are to be found. Thus introduced, the film goes on to show how these mechanical elements work. This begins with the first simple operation of rolling paper into the machine and proceeds to the more advanced stages of typewriting—the setting up of letters, statistical work, stencils, and the like. The film stresses the need for a systematic approach to the learning of touch typing and also demonstrates the proper posture in working at the typewriter for a minimum of physical strain and a maximum of efficiency.

jh-sh-c-adult

655 Printing. Binding

*Cover to cover. 16min 16-sd-$3.00 1938 Gutlohn 655 Co

Produced and directed in England by Paul Rotha, Strand film company.

The complete process of writing, printing and selling a book is shown. Appearing in the film are: Somerset Maugham, Rebecca West, and Julian Huxley.

660 CHEMICAL TECHNOLOGY

664 Food

664.1 Sugar

Old Danish sugar bowl. 11min 16-sd-$.50 1936 Dept. of interior 664.1 Ol

Unusual treatment of the remains of what was once a great industry in the Virgin Islands. Crumbling walls, abandoned machinery and empty fields with an historical background.

el-jh-sh-c

Sugar. 21min 16-sd-$1.00 1936 Dept. of interior 664.1 Su

The story of the rebuilding of the sugar industry in the Virgin Islands, interspersed with scenic beauty and intimate glimpses into the lives of the people of the Islands.

jh-sh

Sugar cane. 2R 16-sd-$1.00 1939 U. S. agric. 664.1 SuC

Shows how sugar cane is grown and harvested, and how sugar is manufactured.

Sugar Refining Process—Dixie Crystals. 3R 16-sd-$1.00 664.1 SuP

This film shows the refining process of sugar as carried out in the Savannah Sugar Refining Corporation, Savannah, Georgia. It includes a survey of the planting, cultivating, and harvesting of sugar cane, and the conversion of the cane juices into raw sugar. It is practically a complete picture of the story of sugar from the cane fields to the various forms of refined sugar available for direct consumption. There is a small amount of advertising of "Dixie Crystals."

el-jh-sh

666.1 Glass

New romance of glass. 20min 16-sd-$1.00 1937 Y. M. C. A. 666.1 Ne

This picture begins with a short story sketch of the first production of glass by the Phoenicians. Views in a modern glass factory follows, showing the manufacture of fruit jars.

jh-sh-c

Safety glass. 30min 16-sd-$1.00 1938 Ford **666.1 Sa**

A portrayal of the development of safety glass, showing complete steps in the manufacture. The picture commences with deposits of silica sand, a fundamental in the manufacture of safety glass, and shows with great care and detail the manner in which the sand and other necessary ingredients are finally made into safety glass as we see it in the modern automobile. There is commercial advertising in the picture.

jh-sh-c

669 Metallurgy

669.3 Copper

From mine to consumer. 30min 16-si-$.50 prior 1927 Am. brass **669.3 Fr**

Produced by Pathescope company of America.

Part one shows how the copper-bearing rock is mined and transported to the smelters. Here the ore is crushed and most of the waste material is eliminated. It then passes successively through roasters, reverbatory furnaces and converters, and the resulting "blister" copper" is cast into plates, known as anodes, for electrolytic refining. In part two we learn how copper and brass sheets and strips are made. We observe copper cakes being rolled under heavy pressure, and the annealing necessary to insure the correct temper of the metal. Lastly, the finishing, trimming and inspection of the sheet metal is shown.

jh-sh

669.7 Nickel. Other metals

Heritage. 9min 16-sd-$.50 1934 Rothacker **669.7 He**

This film is sponsored by the International nickel company. Beginning with views of pre-historic animals in action this film progresses to snatches of the grueling existence of Roman slaves and other peoples. From such beginnings man found and mined minerals which he mastered for his use. There are many views of the mining and milling of nickel, with emphasis on its conversion into monel metal. Some of the uses of this metal are shown, especially its use in the modern kitchen.

jh-sh

Monel metal. 2R 16-si-$.50 1R 16-sd-$.50 Rothacker **669.7 Mo**

This story tells how science has kept apace with modern living in order to bring to us the necessary materials so important in the age of speed, comfort, and industries. Composition of monel metal; its nature and manufacture. Largest non-ferrous electric furnace in the world. Uses of the metal.

Nickel. 30min 16-si-$.50 1935 Bur. of mines **669.7 Ni**

Reel 1 depicts the mining of the ore and the various processes involved in the securing the nickel from it. The flotation process is depicted. Reel 2 shows the importance of nickel to alloys and the many uses of nickel in the home and in the industrial world.

Research paves the way. 15min 16-si-$.25 1936 Rothacker **669.7 Re**

Explains in a purely technical manner how science has kept step with the march of progress in developing new nickel alloys which will withstand the stress and strain of the world geared to high speed. For technical, engineering, and trade schools only.

jh-sh-c-trade

This changing world. 10min 16-sd-$.50 1937 Rothacker **669.7 Th**

Here is a highly entertaining and graphic presentation of the romance of that modern industrial commodity—nickel. A commercial subject, it is entirely lacking the commercial taint for the theater. Lowell Thomas delivers a splendid narrative talk, that takes the viewer through the highlights of recorded history in different parts of the world, comes down to present crude methods in various countries where the modern product of nickel is lacking, and then swiftly into the main subject of the mining of the product, through the various stages of manufacture to the many present-day uses of nickel. Thomas invests the subject with all the drama and glamour of a timely news topic. The subject has been cunningly edited.

670 MANUFACTURES

675 Leather. Shoemaking

Story of leather. 30min 16-si-$.50 1929? Tanners' council **675 St**

The opening scene begins with a dusty, spirited plains round-up of cattle. In the following sequences the hides of these animals are traced through leather making processes into shoes, bag, clothing, upholstery and other products. There are shown the methods and places where hides are taken off, how tanners get them, how they are cured and preserved in the long tanning process. Modern industrial technique is shown and contrasted with stages of manufacture where skilled handicraft is indispensable. World maps with animated titles and diagrams indicate the interrelation of productive factors in the modern world by showing the sources of all raw material used in tanning. Finally, the various methods used to manufacture leather for specific purposes are shown.

el

676 Paper

Trees to Tribunes. 3R 16-sd-$1.00 **676 Tr**

The photographic sequence shows the various steps required to produce a metropolitan newspaper. The scenes begin in the timberlands in Canada and end with delivery of the newspaper to the reader. A voice narrative interspersed with orchestral music and suitable sound effects carries the audience along in rapid tempo, explaining the technical steps and giving an exposition of the modern newspaper publication theory.

677 Textiles. Weaving

677.2 Cotton

Cotton, from seed to cloth. 30min 16-si-$.50 Films of commerce **677.2 Co**

Kodachrome color process.

Shows the cotton producing regions of the world, the growing of cotton in the Southern states, ginning, transportation to New England, manufacture into cloth and blankets, with animations showing for the first time the details of spinning and weaving, cotton textiles and blankets in color photography, cotton Indian head, broadcloth, and prints used in dresses.

el-jh Guide

677.4 Silk. Rayon

Romance of rayon. 18min 16-si-$.50 Viscose **677.4 Ro**

Shows the manufacture of rayon in a way that will interest every pupil. The boys and girls can figuratively tramp through the heart of the spruce woods for trees, watch them felled and floated down to the mills to be processed, gather fluffy cotton and guide the immense machines that spin the threads and weave them into shimmering cloth.

el-jh-sh

690 BUILDING

Builders. 20min 16-sd-$3.00 1931 Erpi **690 Bu**

This picture presents a cross section of the building trades. It furnishes occupational information for boys who have reached the stage at which they are doing some definite thinking about a future occupation. The picture centers around the construction of a huge skyscraper and shows the specialized artisans at work. This stirs the imagination and stimulates the student to secure more information.

jh-sh Guide

691.3 Bricks

Brick pavements. 2R 16-sd-$1.00 U. S. agric. **691.3 Br**

This picture portrays the construction of brick pavements.

Making paving brick. 15min 16-sd-$.50 1937 U. S. agric. **691.3 Ma**

The progress of clay is traced from the time it is taken from the deposit until it is made into the finished product.

700 FINE ARTS

701 ESTHETICS

***We** are all artists. 45min 16-si-$7.50 1935 Harmon found. **701 We**

A motion picture study designed to awaken in the average person an appreciation of beauty as an essential part of life. It presents a simple approach to the understanding of design and good taste.

el-jh-sh-c

720 ARCHITECTURE

726 Cathedrals. Temples

***Churches** and cathedrals: Chartres cathedral, Riverside church, Notre Dame in Paris. (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **726 Ch**

Originally produced by Pathe and reedited in 1936 for this series.

Comparison of three of the most beautiful Gothic churches in the world—the oldest, Chartres, known the world over for its gorgeous stained glass windows. Notre Dame in

Paris with its grotesque sculpture, and the Riverside Church in New York. We see closeups of detail of buttresses, towers and portals while choral music comes from the chancery. Harry Emerson Fosdick explains the aim and purpose of modern Christianity.
jh-sh

770 PHOTOGRAPHY

***Photography.** (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **770 Ph**

Originally produced by Pathe and reedited in 1936 for this series.

The art of photography on land, sea, and in the air is demonstrated by ace Pathe News cameramen. Unusual effects of under-exposed and trick photography, weird angles, etc., make up this reel.

778 Moving pictures

***How** to use your camera. 1R 16-si-$2.00 Harmon found. **778 Ho**

Teachers of photography-struck youngsters will welcome this excellent production. No less valuable will this film be for amateur cinematographers in general, for the production has a general interest and appeal. A carefully edited script has been skillfully transferred to the silent screen to make clear as only the close-up of a camera can do, the reasons for doing and for avoiding doing certain things in cinematography. The absence of a sound track is, in this instance, a treat for there is no distraction from observing carefully the action which occurs on the screen.
jr-sh Guide

***March** of the movies. 58min 16-sd-$10.00 1936 Int. educ. films **778 Ma**

Produced by J. Stuart Blackton.

This film serves a two-fold purpose: first, it affords entertainment for the entire family; second, it provides an opportunity for a comparative study of the successive steps in the development of the motion picture from earliest conceptions to the present time (suitable to supplement class instruction in art, drama, physics, and other subjects).

This film portrays a chronological history of the development of the motion picture. It shows how the movement of images carved on the pillars of the temple of Isis was obtained. The discovery that enabled Leonardo Da Vinci to invent his Camera Obscura, pictures of Kirchners magic lantern, Daguerre's contribution to the development of the movies, and Thomas Edison's discovery of sound motion pictures, are all reproduced in this film.

Scenes from the first fourteen silent motion pictures ever produced are included, as well as portions of later films, such as: The Big Parade, The Hunchback of Notre Dame; The Birth of a Nation; Pollyana.
el-jh-sh-c

780 MUSIC

***Bach-Gounod:** Ave Maria. (Musical moods ser.) 10min 16-sd-$1.50 Gutlohn **780 Ba**

An organ plays Gounod's well known classic in Canteberry Cathedral.
el-jh-sh

*Walter Damrosch. (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **780 Wa**

Originally produced by Pathe and reedited in 1936 for this series.

Walter Damrosch explains how to begin a study of music, setting the example with his own grandchildren. We see and hear him broadcasting the scherzo from a symphony by Glazounow. Then we see sound as it is actually recorded and the interchange of vibrations as Mr. Damrosch plays up and down the scale in major and minor keys.

784 Vocal music

*Foster, Stephen Collins. 1R 16-sd-$1.50 Gutlohn **784 Fo**

The songs of this American composer are sung during the action of an appropriate playlet. Nancy McCord, John Huntley and the Plantation Singers render: "Uncle Ned," "My Old Kentucky Home," "Oh, Susanna," and "Old Black Joe."

785 Orchestral music

*Bach: air for the "G" string. (Musical moods ser.) 10min 16-sd-$1.50 1934 Gutlohn **785 Ba**

Played by the symphony orchestra under the direction of Rosario Bourdon, Doris Humphrey and a group of her dancers interpret the music.

Interpreted in the classic manner. The weaving melody and dignified rhythm are artistically enhanced by the stately mood of this dance.

el-jh-sh

*Brahms': waltz in "A" flat. (Musical moods ser.) 6min 16-sd-$1.50 1936 Gutlohn **785 Br**

Produced by Pathe film corporation.

Orchestra led by Hans Lange, dancer—Desha.

The graceful dance for this was planned by the famous sculptress Malvinia Hoffman. In an oval-framed lattice hung with fruit (which proved to be airy balloons) a dancer interpreted the familiar waltz rhythm. The airy grace of the dancer and the light bubble-like balloons make a picture of artistic grace. The current interest in aesthetic dancing should make this film enjoyable to many children.

el-jh-sh

*Dance of the hours. (Musical moods ser.) 10min 16-sd-$1.50 1934 Gutlohn **785 Da**

"Dance of the hours" from La Gioconda by Fonchielli. Orchestra under the direction of Hans Lange.

Played to shifting scenes of great effectiveness. Quiet pools, sunlit at times, and splashed into tiny circles by pattering raindrops at others, rain washing leaves and trees, waterfalls cascading down sheer cliffs into roaring whirlpools, fields of grain tossed by a mighty wind and the dash of billowing surf on a 'stern and rockbound coast' keep the eye occupied with dramatic Nature in her myriad moods, while the ear listens to the varying changes of the colorful music.

el-jh-sh

***Liebestraum.** (Musical moods ser.) 10min 16-sd-$1.50 1934 Gutlohn
785 Li

Orchestra under the direction of Gustav Hoenshen.

Accompanied by picturesque scenes through which a young couple in old-fashioned dress stroll their graceful way. Down from the stately doorway of a Southern mansion, through shady walks, beside still waters reflecting dark tree trunks and delicate foliage, over a picturesque bridge, they walk, symbolizing the dignity and romance of the well-known love song.

el-jh-sh

***2nd Hungarian rhapsody.** (Symphony ser.) 10min 16-sd-$1.50 1934 Gutlohn
785 Se

This music by Liszt is played by the symphony orchestra of the Paris Conservatory of Music, directed by Prof. Oscar Fried.

jh-sh-c

Symphony orchestra. 10min 16-sd-$1.50 1938 Erpi 785 Sy

Two Wagnerian compositions are featured in this film in the "Ride of the Valkyries" and the Prelude to Act 3 of "Lohengrin." The work of the conductor, Mr. Howard Barlow, is caught by unique camera angles as he interprets these brilliant scores and through of his orchestra of Philharmonic players, brings this interpretation into sound.

jh-sh-c Guide

787 Stringed instruments

String choir. 10min 16-sd-$1.50 1937 Erpi 787 St

Portrays the wide variety of musical moods and effects conveyed by stringed instruments and thus demonstrates the reason for their bearing the brunt of orchestral interpretations. Reveals the various techniques of performance on stringed instruments from the most advantageous position possible. A full orchestra of leading symphony players is used in these demonstrations. Selections include compositions by Mendelssohn, Schubert, Rossini and Beethoven. The concluding number is a portion of Schubert's "B Minor" (Unfinished) Symphony.

el-jh-sh-c Guide

***Violins and cellos.** (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn
787 Vi

Originally produced by Pathe and reedited in 1936 for this series.

J. C. Freeman, curator of the Wurlitzer collection, shows us the world's most priceless violins and cellos. Benno Rabinof, noted violinist, and Beneditzky, concert cellist, play while we see in closeup the skill of their fingering technique.

sh-c

788 Wind instruments

Brass choir. 10min 16-sd-$1.50 1937 Erpi 788 Br

This picture replaces the film of the same title released in 1931 and since withdrawn by the producer.

This film presents the individual intruments of the brass choir—the cornet, trumpet, French horn, trombone, tuba, and their peculiar characteristics. Solo numbers represent the best compositions that have been prepared for the individual instruments. The ensemble gives a thrilling performance of the "March" and the "Pilgrims' Chorus" from "Tannhauser" by Wagner. A stirring picture to be enjoyed and appreciated by everyone.

el-jh-sh-c Guide

Love of the harmonica. 10min 16-sd-$.50 1936 German railroads **788 Lo**

This is a musical film of great entertainment value. The photography is very good. We hear music comprising German folk songs played against scenic backgrounds. Some scenes show how harmonicas and accordians are manufactured.

el-jh-sh-c Guide

Woodwind choir. 10min 16-sd-$1.50 1937 Erpi **788 Wo**

This film replaces the film of the same title released in 1931 and since withdrawn by the producer.

Throughout this film various woodwind instruments, supported by full orchestra, are shown and heard in typical passages from standard orchestral compositions. Ample opportunity is given to hear and judge tone quality and to observe playing techniques. The performers are professional symphonic players of the highest rank. Various details of instrument construction are explained. The use of the French horn with the woodwind group is shown in a portion of Brahms' "Fourth Symphony." The film opens with an excerpt from Brahms' "First Symphony." Other selections range from the works of this more abstract composition through Beethoven, Mendelssohn, Von Weber, to the colorful and familiar "William Tell" music of Rossini.

el-jh-sh-c Guide

789 Bells. Percussion instruments

Percussion group. 10min 16-sd-$1.50 1938 Erpi **789 Pe**

Variety is the keynote of this picture showing as it does, not merely the traditional snare, base and kettle drums, but also the tambourine, cymbals, triangle, bells, and xylophone. The opening measures of music in this picture are played on the celesta—an instrument which pupils rarely have opportunity to examine. The camera brings each instrument close enough for detailed examination. Selections from Schubert, Chopin, Beethoven and Meyerbeer are used.

el-jh-sh-c Guide

790 AMUSEMENTS

792.1 Passion play

Oberammergau and the Passion players. 2R 16-si-$.50 German tourist **792.1 Ob**

Oberammergau is the famous Passion Play town. The great religious spectacle was performed for the first time in 1634. This film tells the history of the Passion Play and the life of the players.

793.3 Dancing

***Dances of the nations.** (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **793.3 Da**

Originally produced by Pathe and reedited in 1936 for this series.

Characteristic dances of Spain, Russia, Holland and the Argentine are presented.

sh

796 Athletics and outdoor sports

796.33 Football

Rose Bowl football, 1937. 1R 16-si-$1.00 Cinegraphic **796.33 Ro**

Scenes taken at the Pittsburgh-Washington 1937 Rose Bowl game, played at Pasadena, California.

Yale vs. Princeton football, 1936. 1R 16-si-$1.00 Cinegraphic **796.33 Ya**

Scenes from the 1936 Yale-Princeton football game, showing closeups of outstanding plays.

796.34 Tennis

Davis Cup Tennis, 1936. 1R 16-si-$1.00 Cinegraphic corp. **796.34 Da6**

This is the United States vs. Australia, North American Davis Cup zone finals, which were played on the courts of the Germantown Cricket Club in May 1936. This film shows in slow motion each match, and close play of each of the players with their strokes. The players are Adrain Quist and Jack Crawford of Australia; Wilmer Allison, Donald Budge, and Gene Mako of the United States.

sh-c

Davis Cup Tennis, 1937. 1R 16-si-$1.00 Cinegraphic corp. **796.34 Da7**

This is the United States vs. Australia, North American Davis Cup zone finals, which were played on the courts of Forest Hills, Long Island, in May 1937. The matches shown are J. Donald Budge vs. Jack Crawford, Bryan "Bitsy" Grant vs. John Bromwich, J. Donald Budge vs. John Bromwich, Grant vs. Crawford, Budge and Mako vs. Crawford and McGrath. This shows the play of each individual in slow motion, as well as each match. The individualistic style of Bromwich and McGrath who play with two hands on the racket is interesting.

sh-c

796.4 Olympic games

Call of the Olympic bell. 2R 16-si-$.50-sd-$1.00 1936 Germain railroads **796.4 Ca**

A brief review of the history of the Olympic Games, commencing with the beginning of the Games in 776 B.C. up to and including the preparation of the XI Olympic Games in Berlin in 1936. It does not contain a picture record of the last Olympic Games but is packed with lively sport scenes and pictures of Germany.

796.9 Winter sports

Winter wonderland. 12min 16-sd-$.50 1938 U. S. agric. **796.9 Wi**

Illustrates the varied winter sports that may be enjoyed on the National Forests, such as skiing, snowshoeing, tobogganing, skating, and shows some of the facilities, such as ski-jumps, toboggan slides, practice slopes, and shelters that have been provided for the comfort of visitors.

el-jh-sh-c

797 Boating. Swimming

797.1 Boating

Wee Anne goes sailing. (Wee Anne ser.) 10min 16-si-$.75 1938 Cinegraphic **797.1 We**

This picture shows what Wee Anne does when she goes to the Yacht Harbor. She rows a boat, sees sail boats and motor boats, is taken for a sail on a Star sail boat. The activities of hoisting, lowering, furling, and covering the sails are filmed.

el

799 Game protection

Forest fires or game? 1R 16-si-$.25-sd-$.50 1931 U. S. agric. **799 Fo**

Unburned forests are a home for game birds and animals, and forest streams a home for fish, but forest fires and unrestricted hunting and fishing make restocking with game and fish necessary. The picture is of interest to those who use our forests for recreation.

Game management. 2R 16-si-$.50 1935 U. S. agric. **799 Ga**

An exposition of the need for and the methods employed in managing deer on the Kaibab National Forest, Arizona.

799.2 Hunting

Regulated deer hunting. 2R 16-sd-$1.00 U. S. agri. **799.2 Re**

This film shows the damage done by deer when they become too numerous, and how they are removed by trapping, artificial rearing and shipping of fawns, and by regulated hunting on the Pisgah National Forest and Game Preserve in North Carolina. Of general interest, but especially for sportsmen.

909 WORLD HISTORY

***Pathegram** monthly news review, 1938. 1R 16-sd-$1.50 1938 Gutlohn **909 Pa**

Condensed versions of the Pathe news of 1938.

910 DESCRIPTION AND TRAVEL

914 EUROPE

914.2 England

***England.** (Our world in review ser.) 1R 16-sd-$1.50 Gutlohn **914.2 En**

We are taken to Eton, one of England's famous public schools, then on a tour of Salsbury with its well known Cathedral. Next we are shown an iron mill, one of England's representative industries, and then go North to Stirling, the gateway to the Highlands.

*Statue parade. (London calling ser.) 2R 16-sd-$3.00 1938 Gutlohn
914.2 St

Produced by Paul Rotha, Strand film company of England.
This film shows the unusual and entertaining aspects of London.

914.3 Germany

Allgaeu in summer. 15min 16-si-$.25-sd-$.50 1936 German Railroads
914.3 Al

This region situated in Southern Germany is remarkable for its interesting old towns, monasteries, ancient castles and the picturesque dress of its sturdy peasants, all portrayed in this . . . film.

Silent film has English titles. Sound film has German dialog.

el-jh-sh-c Guide

Baltic sea coast. 15min 16-si-$.25-sd-$.50 German railroads 914.3 Ba

Centuries ago the Hanseatic towns along the Baltic Sea achieved great fame in mercantile enterprise. Today beautiful buildings remain to tell of that period. Typical is the red brick architecture of many churches with manifold spires and turrets offering an interesting skyline. The mild climate and sandy beaches of the Baltic Sea offer vacation opportunities. The coast is bordered by deep oak and beech forests, where one finds ancient mounds and stones as silent witnesses of the past around which strange legend is woven in druids. Amber, the gold of the north, is found here.

Baroque City of Dresden. 15min 16-sd-$.50 German railroads 914.3 Bar

Dresden is world-renowned for its beautiful and varied examples of the baroque period. The motion pictures show the art treasures of the period which have been amassed by its rulers in the course of many centuries.

With English titles and dialogue in English.

sh-c

Bavarian Alps, from Garmisch-Partenkirchen to Berchtesgaden 12min 16-si-$.25-sd-$.50 1938 German railroads 914.3 Bav

The Bavarian Alps are one of the most picturesque parts of Germany and the goal of many travelers. Garmisch-Partenkirchen is a favorite summer and winter resort and was the scene of the 1936 Winter Olympics. Rising above Garmisch is the Zugspitze, Germany's highest mountain. Mittenwald is the home of the German violin industry. The Konigsee, the prettiest of the Alpin lakes, nestles like a jewel among the giant mountains of the eastern Bavarian Alps.

Silent with English titles. Sound dialog in English.

el-jh-sh-c

Bayreuth—city of Richard Wagner. 15min 16-si-$.25-sd-$.50 1936 German railroads 914.3 Bay

Here are shown scenes of the famous Wagner city. . . . Shows the Wagner Museum, the 'Owl' Inn, the Opera House and Wagner's home 'Wahnfried.'

Silent film has English titles. Sound film has dialog in English.

el-jh-sh-c Guide

Beautiful Dresden. 15min 16-si-$.25-sd-$.50 German railroads **914.3 Be**

This film is descriptive of one of the most celebrated art centers of Europe. Dresden is situated on both banks of the Elbe River and boasts of seven bridges and many magnificent buildings and gardens. This film shows the interiors of some of the famous galleries with their great masterpieces of art.

With English titles and dialogue.

cl-jh-sh-c

Berlin. 30min 16-si-$.50-sd-$1.00 1936 German railroads **914.3 Ber**

An intimate picture of Germany's capital. Many of its famous streets, public buildings, monuments and old palaces are shown. . . . The historical background enriches the value of the film.

Silent film has English titles. Dialog of sound film is in English.

cl-jh-sh-c

Bremen. 15min 16-si-$.25-sd-$.50 1936 German railroads **914.3 Br**

The photographic treatment of this film exemplifies the modern trend in European film production. Extraordinary views of this old city are shown by the use of unusual and interesting camera angles. The grotesque shots of the strange "lead vault" of the Bremen Cathedral are particularly startling.

Silent film with English titles; sound film with English dialogue.

Castles in the Meissen Country. 15min 16-si-$.25-sd-$.50 German railroads **914.3 Ca**

Here are shown the fertile lowlands of Saxony whose history dates back to the 10th century when it became part of Germany. The film shows the picturesque ruins of its many medieval strongholds. The thousand-year-old city of Meissen is also shown, as is the State Porcelain Factory, the oldest in Europe.

sh-c

Country and people of the Erzgebirge. 10min 16-si-$.25-sd-$.50 1936 German railroads **914.3 Co**

Among the many interesting scenes in this film are shots showing peasants making lace, even the thread being made by hand. Other scenes show the making of brushes—the sole industry of one village. Wood carving and toy making play a prominent part in the lives of these people.

Dialog in English. Silent edition with English titles. Sound edition with dialog in English.

sh-c

Dresden and its environs. 1R 16-sd-$.50 German railroads **914.3 Dr**

Dresden and its environs are well-known for their art treasures and magnificent situation in the Elbe Valley. Surrounded by wooded and romantic Saxon Switzerland, Dresden presents a picture of extreme loveliness.

Available with titles and dialog in English as well as in German.

sh-c

Faster and faster on Germany's new motor highways. 1R 16-si-$.25-sd-$.50 German railroads **914.3 Fa**

Germany is building the most modern automobile highways as a part of the new motorization program. Five thousand miles of new roads are being built simultaneously. The highways are so arranged that they are devoid of crossroads; bridges and trestles spanning river gorges and valleys. The new national highways connect all points of economic, cultural and scenic importance in Germany.

Frankfort-on-Main. 1R 16-si-$.25-sd-$.50 German railroads **914.3 Fr**

Frankfort has been called the center of European culture and economic life. This film depicts a blending of old world glories and modern wonders.

With English titles and dialogue in English.

el-jh-sh-c Guide

German North Sea coast. 1R 16-si-$.25-sd-$.50 German railroads **914.3 GeC**

For centuries the waves have washed against the shores of Friesland leaving a rugged coast with many islands. The North Frisian Islands are from Heligoland north along the coast of Schleswig-Holstein and the East Frisian Islands are from the Elbe River to the coast of Holland. The inhabitants of these islands are fishermen and farmers at the same time. Regular steamer service is maintained to the larger islands which are well-known bathing resorts. A seven mile causeway connects Westerland, the largest North Frisian Island, with the mainland.

German winter sports. 3R 16-sd-$1.50 German railroads **914.3 GeS**

A series of three motion pictures dealing with winter sport activities. The films are highly entertaining as well as instructive to skiers and those interested in skiing.

jh-sh-c Guide

***Germany.** (Our world in review ser.) 1R 16-sd-$1.50 Gutlohn **914. 3 Ce**

This reel opens with beautiful mountain views of the Alps; then we go to Dresden, called the city of the Arts, with its fine buildings and statues. By way of contrast, we are shown Garmisch, the "painted village," the buildings decorated with pictures of local industries, and finally to Weimar, the home of Goethe.

Germany—the heart of Europe. 25min 16-si-$.50-sd-$1.00 1936 German railroads **914.3 GeE**

A short review of Germany today built on a background of history. A travelogue commencing with the arrival at a German port showing in rapid succession the beauty of historical Germany, alternating with the Germany of today.

Titles and dialog are in English.

el-jh-sh-c

Hamburg. 15min 16-si-$.25 1936 German railroads **914.3 Ha**

Hamburg with its canals and old buildings is Germany's second largest city and the Continent's largest seaport. Among the many interesting scenes of the old and the new Hamburg are shots of Hamburg at work and at play. The film also shows good closeups of the rare animals at Hagenbeck's world famous zoo.

el-jh-sh-c

Harz mountains. 15min 16-si-$.25-sd-$.50 1936 Germain railroads **914.3 Har**

The Harz is the highest mountain range in Central Germany. It abounds in magnificent forest, high plateaus and picturesque valleys. Close-ups of the world famous Harz Mountain canaries are among the scenes.

Titles and dialog are in English.

el-jh-sh-c Guide

In old Hessen. 2R 16-si-$.50-sd-$1.00 German tourist **914.3 In**

Picturesque Germany is at its best in these scenes of peasants dressed in their quaint costumes against a background of ancient buildings.

With English titles and dialog in English.

el-jh-sh-c Guide

Lake Constance. 1R-si-$.25-sd-$.50 German railroads **914.3 La**

Lake Constance is the largest lake in southwestern Germany. Germany, Austria and Switzerland border on the lake, and a frequent schedule of lake steamers maintain traffic on its waters. Friedrichshafen, home of the world-girdling Zeppelins, is on the north shore. Not far away are the reconstructed lake-dwellings which give an accurate picture of the abodes of the prehistoric inhabitants of the lake region. Grottoes and passageways probably served as places of refuge for the early cave dwellers. Constance is rich is historical tradition. The island of Meinau is a semi-tropical paradise. The fertile island of Reichenau has been cultivated for centuries.

Titles are in English.

Rhine from Cologne to Mayence. 12min 16-si-$.25-sd-$.50 1938 German railroads **914.3 Rh**

The Rhine, one of the most romantic rivers in the world, attracts many travelers every year. We embark upon a boat and railroad journey from Cologne to Mayence. On our way we pass many of the old castles and strongholds which remained from the Middle Ages.

Romantic country of castles. 15min 16-si-$.25-sd-$.50 1936 German railroads **914.3 Ro**

This picturesque film shows the romantic country of castles lying between the Neckar and the Tauber River. Probably in no other part of Germany is one likely to find more enchanting scenery than this. From Heidelberg to Rothenburg proud castles and crumbling ruins beckon from the hills to the dreamy countryside below.

el-jh-sh-c Guide

***Saar,** The. (Vagabond adventure ser.) 10min 16-sd-$1.50 1938 Gutlohn **914.3 Sa**

Produced by R.K.O. Van Beuren Corporation.

Insight into a seething center of industrial and mineral wealth. First is shown the town of Saarbruecken, neat and clean and not at all remindful of the mining activities for which the district is famous. The main streets, schools and markets are seen.

jh-sh-c

Scenes from Thuringia. 12min 16-si-$.25-sd-$.50 1937 German railroads **914.3 Sc**

Thuringia's mountains, which are rich in slate, form the background of a superb landscape, where ancient strongholds and castles look down from thickly wooded hills upon picturesque old cities. In these quiet towns an interesting and today almost extinct branch of industry still exists: the spinet is manufactured here.

Stuttgart. 12min 16-si-$.25-sd-$.50 1936 German railroads **914.3 St**

The largest city in Swabia is situated on the Neckar River. The old town with its narrow lanes and the new town characterized by broad thoroughfares and modern buildings offers an interesting contrast. Stuttgart is also a modern industrial center.

With English titles and dialogue.

jh-sh-c

Trip through Germany. 30min 16-si-$.50-sd-$1.00 1936 German railroads **914.3 Tr**

A pictorial trip through the Germany of today. Many aspects of the New Germany are here shown for the first time, while short sequences of medieval Germany afford interesting contrasts.

English titles, and dialogue in English.

el-jh-sh-c Guide

Vintagers' festival. 15min 16-si-$.25-sd-$.50 1936 German railroads **914.3 Vi**

Folk festivals in Germany are famous. This subject shows the fall festivals which are celebrated after the grapes have been harvested in the Palatinate. Gay native dances and costumes lend color to the film.

With English titles and dialogue in English.

914.4 France

***France.** (Our world in review ser.) 1R 16-sd-$1.50 Gutlohn **914.4 Fr**

The magnificent chateaux of France which, since the fifth century, have helped to make her history: Chinon where, in 1429, Joan of Arc appeared before Charles VII; Sully-sur-Loire where Voltaire lived; Chenonceaux, which Henry II gave to Diane de Poitiers; Pierrefonda, the fortress which Napoleon bought for $120 after the French Revolution; many others, showing the evolution of the residence from the stronghold. Closeups of interior—murals, rose windows, Court of Honor and the Hall of the Brave.

914.5 Italy

***Italy.** (Our world in review ser.) 1R 16-sd-$1.50 Gutlohn **914.5 It**

We go from Venice to Rome through San Gimignano, that 13th century town with its feudal towers, beautiful in proportion, looming above the surrounding hill country, as thrilling in their beauty as the skyscrapers of Manhattan. Down the Tiber to the Eternal City with its fountains and sculpture and the mellowness that comes with age. Before we leave Italy, we explore the caverns of Postunia Grotte in Trieste, ten miles deep, a world of lurking demon shapes, where Dante got inspiration for the Divine Comedy.

914.85 Sweden

***Venice of the north: Stockholm.** 1R 16-sd-$1.50 Gutlohn **914.85 Ve**

A camera visit to the beautiful city of Stockholm. Built on a group of islands, the city's many quiet waterways have earned for it the term "Venice of the North." As we approach the city by boat we pass the famous Nordska Museum and are soon gliding past a veritable forest of masts that rise from the decks of scores of sailing ships.

el-jh-sh

914.98 Rumania

***Roumania.** (Vagabond adventure ser.) 1R 16-sd-$1.50 Gutlohn **914.98 Ro**

Travelling through the beautiful country of Roumania the camera shows King Carol II, then the charming castle, "Pelesh," located in the Carpathian Mountains; the famous Sinaia Monastery and the beautiful Casino, the center of entertainment. Next is seen a glimpse of peasant life.

915 ASIA

915.1 China

*Arts of China. 1R 16-si-$1.50 1932 Harmon found. **915.1 Ar**

This study of the arts of China is illustrated with examples from museum collections; buildings revealing ancient architecture; paintings and scrolls in detail; sculpture and carved jades and ceramics; woven and embroidered silks; the scenes of the interior of a Buddist temple with the priest clad in rich robes. The basic principles and theories of Chinese art are analyzed and illustrated.

el-jh-sh-c Guide

*China and America. 1R 16-si-$1.50 1932 Harmon found. **915.1 ChA**

Comparison of China and the United States by means of outline maps showing comparative sizes, populations and industries; graphs and other sketches depicting the immense age and steady development of Chinese culture. Examples of arts and ceremonials reveal the rich cultural background. Contrast of the relatively slow industrial development is made, and glimpses of cities now under foreign control are given.

el-jh-sh-c Guide

*China's Children. 1R 16-si-$1.50 1932 Harmon found. **915.1 ChC**

The study of the child-life of China; the life on a sampan or river boat; the play in the city streets, with glimpses of an old story teller, some street entertainers, food vendors, and a parade; the work in weaving, fishing, rowing, picking tea; little girls carrying babies on their backs; well-dressed youngsters from wealthy families; children in a mission school.

el-jh-sh-c Guide

*China's gifts to the West. 30min 16-si-$3.00 1936 Harmon found. **915.1 ChW**

Two small boys, one Chinese, the other American, explore the American's home to discover China's gifts to the Western World: games: mah jong, dominoes, playing-cards; paper-making; hand-painted wall papers, gunpowder; the magnetic needle on the compass; goldfish; pekinese dogs; flowers and floral designs: peonies, iris, chrysanthemums; tea; furniture; silk. As each article is considered, the film travels farther afield by showing to what highly developed uses it has been adapted by the necessities of the Western civilization.

el-jh

*China's home life. 1R 16-si-$1.50 1932 Harmon found. **915.1 ChL**

The land of contrast is depicted by rich mandarin palaces with beautiful gardens, the crowded life of the city street, the river-boats and their life of poverty, the farms, and the homeless beggars. The old ceremonial customs are shown by street processions of weddings and funerals; there are interesting glimpses of markets and street shops; a cross-section of the people—the barber, the itinerant milkman with his cow, the letter writer, the acrobats and the street fakirs.

el-jh-sh-c Guide

*Education in China. 1R 16-si-$1.50 1932 Harmon found. **915.1 Ed**

An interesting and thought provoking study of education in China revealing the rich cultural background that has been the privilege of the "chosen few" and in contrast the great modern movement for the education of the masses. The writing of the complex ancient Chinese script is shown with the more simplified modern forms. Other examples of ancient culture and knowledge are revealed by shots of some intricate and beautiful astronomical instruments.

el-jh-sh-c Guide

*Glimpses of modern China. 30min 16-si-$3.00 1937 Harmon found.
915.1 Gl

Part I of the film is an orientation to the country itself. It gives a swift tour of Canton, Peiping, Nanking, Shanghai, Hankow, and western China. China, the country is revealed as modern, yet retaining the charm of its ancient civilization. Part II brings about an acquaintance with the people of China. The film surveys education, government and leadership in modern China. As the title implies, it is composed of glimpses worked together toward a unity that is intended to give a feeling for the nation as a whole.

el-jh-sh-c

*How China makes a living. 1R 16-si-$1.50 1932 Harmon found.
915.1 Ho

The people of China are shown at work: the farmer in his tiny fields, plowing, planting, and harvesting his rice crop; primitive methods of irrigation and fertilization; the culture of tea and silk; the various methods of fishing; the harvesting of bamboo and making rope from its fibre; the gathering and preparing of wood-oil nuts, camphor wood and castor oil beans; coolies, men, women and children loading vessels and performing other heavy tasks; a glimpse toward the future showing a modern factory.

el-jh-sh-c Guide

*Three great religions of China. 1R 16-si-$1.50 1932 Harmon found.
915.1 Th

A study of China's three great religions: general temple scenes; Taoism, the Taoist bible, "Book of the Path of Virtue," rites as practiced by priests; Buddhism, the temples, the priests, the pictures of famous Buddha statues and images, the Lotus Gospel, worshippers in the temple courtyard; Confucianism, China's greatest religion, the study of the "Golden Rule" of Confucius, scenes of ancestor worship; a brief comparison of these three religions and Christianity.

el-jh-sh-c Guide

915.2 Japan

*Japan and her problems. 2R 16-si-$3.00 Religious motion picture found.
915.2 Ja

This sober factual study of the country and its people provides valuable background for a dispassionate consideration of Japanese policy in the Orient. Japan's history and topography, her rapid westernization and industrialization since 1854, the character of her people as exemplified by their home life, religion, artistic ability; public enterprise; industry; and form of government give a clearer insight to the economic and social situations confronting the Japanese Empire.

el-jh-sh-c

916 AFRICA

*From fetishes to faith. (Africa joins the world ser.) 15min 16-si-$1.25 1937 Harmon found.
916 Fr

Supervised by Emory Ross, executive secretary of the Africa Missions Conference.

Africa's tremendous needs, the problems and achievements of missionaries, the hope for the future, are shown in this film.

el-jh-sh-c

*How Africa lives. (Africa joins the world ser.) 15min 16-si-$1.25 1937 Harmon found. **916 Ho**

Supervised by Emory Ross, Executive secretary of the Africa Missions Conference. This picture shows Africa's home life, crafts, modern industrialization.

el-jh-sh-c

*What Africa is. (Africa joins the world ser.) 15min 16-si-$1.25 1937 Harmon found. **916 Wh**

Supervised by Emory Ross, Executive secretary of the Africa Missions Conference. This film gives Africa's history, physiography, races, primitive religious beliefs, arts, and tribal organization.

el-jh-sh-c

917.1 CANADA

917.14 Quebec

*Quebec. (Vagabond adventure ser.) 11min 16-sd-$1.50 1938 Gutlohn **917.14 Qu**

This film shows the lower part of Quebec where quaint houses, many of them hundreds of years old, are crowded on narrow streets. Among the outstanding points of interest is shown the Cathedral of Notre Dame des Victories; Basilica, home of General Montcalm and the Parliament Building.

jh-sh

917.16 Nova Scotia

*Land of Evangeline. 1R 16-sd-$1.50 Gutlohn **917.16 La**

Here are shown the beautiful scenes that inspired the famous poem "Evangeline" by Henry Wadsworth Longfellow, retaining all the tragic romance and at the same time expressing one of the most beautiful events in the history of the world—the expulsion of the French Acadians from their homes.

el-jh-sh

917.2 MEXICO

Mexican children. (Primary grade ser.) 11min 16-sd-$1.50 1938 Erpi **917.2 Me**

By means of authentic photography, the home life of the Mexican child is brought to the screen to provide American and other children of primary grade age with an idea of the cultural patterns of modern Mexico. Consideration also is given to the Mexican child's preparation for citizenship, his kinds of recreation, the types of toys he plays with, his style of clothes, and his local travels and explorations. In all, the film develops a better understanding and appreciation of our neighbors in Mexico than most children ever acquire. As with the other primary grade pictures, it can be used for motivating a number of classroom projects.

el-jh Guide

*Our Mexican neighbors. 2R 16-si-$2.00 Harmon found. **917.2 Ou**

A quick look at Mexico—the country and the people.

***Romantic** Mexico. 1R 16-sd-$1.50 Gutlohn **917.2 Ro**

A subject that shows the many beautiful sights that may be seen in and about Mexico City. In the city are seen the great public buildings, noted the world over for their beauty and graceful design, among them Mexico's great Cathedral.

el-jh-sh-c

917.28 CENTRAL AMERICA

Picturesque Guatemala. 2R 16-sd-$1.00 1939 U. S. agric. **917.28 Pi**

Shows location of the new Inter-American highway connecting the United States with Panama City, and progress made in its construction. Methods and machinery used in making roads are also shown. Glimpses of the life and occupations of a friendly people. Many points of interest to the tourist.

917.29 WEST INDIES

917.297 Leeward Islands

In the wake of the Buccaneers. 1R 16-sd-$.50 1936 Dept. of interior **917.297 In**

A tour of St. Thomas, Virgin Islands, including scenes of the interesting places usually visited by tourist groups. The early history of St. Thomas is reflected in the scenes and descriptive matter included in this picture.

jh-sh

917.3 UNITED STATES

917.5 Southeastern states

917.53 Washington, D. C.

I pledge my heart. 12min 16-sd-$.50 1938 U. S. agric. **917.53 I**

Historic shrines, impressive structures, and picturesque spots of the National Capitol as seen through the eyes of the National 4-H Club Camp Delegates.

jh-sh

There's only one. 10min 16-sd-$.50 1934 Rothacker **917.53 Th**

Buildings of historical interest in Washington, D. C., are shown as well as general views chosen solely for their beauty.

el-jh-sh-c

917.55 Virginia

Historic scenes along the Mount Vernon memorial highway. 1R 16-si-$.25 1933 U. S. agric. **917.55 Hi**

Places of scenic beauty and historical interest along this beautiful highway from Washington, D. C., to Mount Vernon. This highway was built in commemoration of the 200th anniversary of the birth of George Washington. Of general interest.

*Mount Vernon. 1R 16-sd-$1.50 Gutlohn 917.55 Mo

Mount Vernon, once the home of George Washington, is now the most revered historic shrine in the United States. Through the courtesy of the Mount Vernon Ladies' Association, the first and exclusive motion pictures of the interior of this great historic shrine are shown.

Shenandoah national park. 15min 16-si-$.25 1936 Bur. of mines 917.55 Sh

Animated map of Virginia showing location and area of Shenandoah National Park. Thornton Gap entrance from Lee Highway, 'Skyline Drive' over the mountain crests, with vistas and panoramas. Views of bridle paths, trails, waterfalls, picnic groves, and scenes of century-old structures to be found in the Shenandoah. Scenes of Rapidan Camp, Swiftrun Gap entrance from Spotwood Trail, and a CCC camp within the park area.

el-jh-sh

917.6 Southern states

917.61 Alabama

Heart of the Confederacy. 10min 16-sd-$.50 1936 Dept. of interior 917.61 He

Development and use of state parks around Montgomery and Auburn, Alabama, with side lights on the history of the Capitol of the Confederacy and college education in the south.

el-jh-sh-c

917.64 Texas

Glimpses of Texas, its natural resources and the Big Bend National Park Project. 1R 16-si-$.25 1936 Bur. of mines 917.64 Gl

A trip through one of the wildest, strangest spots in the United States, recently made a National Park Project; featuring mountains and broad desolation, with a prologue on Texas' national resources.

917.8 Western states

Glimpses of national parks. 31min 16-si-$.50 1935 Nat. park serv. 917.8 Gl

Part I. Scenic glimpses and animal life in Yosemite, Yellowstone, Rocky Mountain and Grand Canyon National Parks.

Part II. Outstanding features in Glacier, Lassen Volcanic and Sequoia National Parks.

el-jh-sh

917.86 Montana

Glacier national park. 20min 16-si-$.50 1936 U. S. Dept. of interior 917.86 Gl

The Most spectacular of the national parks as seen by the camera from many angles and out-of-way places. Towering snow-covered mountains, sparkling lakes, and rambling Swiss Chalets.

el-jh-sh-c

Let's study Glacier national park. 14min 16-si-$.50 1935 Nat. park serv. **917.86 Le**

The geological story of Glacier National Park, told in animation and direct photography.
el-jh-sh-c

Natives of Glacier. 15min 16-si-$.25 1935 Dept. of interior **917.86 Na**

Intimate pictorial glimpses of the interesting types of flora and fauna of Glacier National Park.
el-jh-sh-c

Seeing Glacier national park. 10min 16-si-$.25 Nat. park serv. **917.86 Se**

A movie trip to some of the most interesting scenic attractions of the park.
el-jh-sh

917.87 Wyoming

Yellowstone national park. 11min 16-sd-$.50 1937 Ford **917.87 Ye**

The film features the scenic beauty of this oldest and largest of the American national parks, particularly its geysers and hot springs and the magnificent canyon. "Old Faithful" plays a leading part. Experts acclaim the photography as among the finest ever done on American natural vistas and the park and recreation authorities are enthusiastic over its travel lure and its authenticity and attention to detail.
jh-sh-c

917.89 New Mexico

Carlsbad caverns national park. 12min 16-si-$.25 1936 Dept. of interior **917.89 Ca**

Views of the interior of the Caverns, with pictures of interesting plant and animal life of that area and an animated explanation of the formation of the Caverns and of the interesting formations within them.
el-jh-sh

White Sands national monument. 17min 16-si-$.25-sd-$.50 1935 Nat. park serv. **917.89 Wh**

An interesting picture of White Sands, explaining what they are and how they happened. This picture contains many unusual desert and mountain scenes.
jh-sh-c

917.9 Pacific coast states

917.92 Utah

Bryce national park. 10min 16-sd-$.50 1938 Ford **917.92 Br**

This picture shows the beauties of one of the most scenic spots in picturesque Utah. Many beautiful scenes are shown to advantage, and the very unusual photography assures a picture of lasting interest.
jh-sh-c

Zion national park. 10min 16-sd-$.50 1938 Ford **917.92 Zi**

Huge monoliths carved by rains and river, basking in semi-tropical climate, makes this park in southwestern Utah an ideal vacation ground. Aerial views of the park combined with the natural beauty of the rock formations make this picture very interesting.

el-jh-sh-c

917.94 California

***California** missions. (World on parade ser.) 1R 16-sd-$1.50 Gutlohn **917.94 Ca**

California missions, the historic civilization out-posts of another century, were built by the Franciscan Friars, who, starting in Old Mexico erected their places of worship along a thousand-mile course terminating their peaceful conquest of hostile Indians in, what is now, Los Angeles, California.

Death valley national monument. 15min 16-si-$.25 Dept. of interior **917.94 De**

A camera journey through an area known all over the world because of the fact it lies below sea level. Remnants of the days of the gold rush. Twenty mule team wagons and modern facilities for seeing this strange land.

el-jh-sh-c

***Heart** of the Sierras. 1R 16-sd-$1.50 Gutlohn **917.94 He**

Yosemite National Park, one of the most beautiful and majestic sights of nature is brought to the screen in intimate detail that reveals the glories of this great public playground. At the Park Museum are seen many interesting exhibits that tell the history of the park down through the ages. From Hanging Rock, 3000 feet above Yosemite Valley an awe inspiring view is obtained.

el-jh-sh-c

Natives of Yosemite. 17min 16-si-$.25 Dept. of interior **917.94 Na**

Scenes showing the interesting types of flora and fauna of the Park, closing with pictures of Yosemite Indians in native costumes.

el-jh-sh

Seeing Yosemite national park. 15min 16-si-$.25 Dept. of interior **917.94 Se**

A series of scenes, including the points normally visited by those who go to Yosemite national park, including both winter and summer scenes and the recreational activities within the park. This park is noted for the beauty of its waterfalls, valleys, monoliths, and sequoias.

el-jh

917.97 Washington

Olympus country. 1R 16-si-$.25 1936 Dept. of interior **917.97 Ol**

A picture record of an expedition through the Olympus country for the purpose of studying the fauna, flora, glaciers, lakes and rivers of Mount Olympus National Monument on the Olympus Peninsula in the State of Washington. Introduced by a number of airplane scenes of the monument area.

el-jh

917.98 ALASKA

Alaska. 15min 16-si-$1.00 1930 Eastman **917.98 Al**

Depicts the scenery, industries, and life of Alaska; gold mining, salmon fishing, seal hunting, whaling, native life and schools, and the prosperous farms of American settlers. This film helps to dispel the belief that Alaska is a country of only glaciers, ice, snow.

el-jh-sh-c Guide

918 SOUTH AMERICA

Continent of South America. 15min 16-si-$1.00 1931 Eastman **918 Co**

An animation emphasizes the triangular shape of all the continents, and locates South America on the globe. Following mountain scenes, the Andes are located on a map. The Pacific slope is shown to be steep, with short, swift rivers. An animation locates the Brazilian Highlands, and the La Plate Basin, with scenes of its waterfalls and jungles. The Guiana Highlands are located on the map, followed by scenes in the Highlands. The Orinoco Basis is shown, lying between the Andes and the Guiana Highlands, followed by scenes along the Orinoco River. The Amazon Basin is located and pictured.

el-jh Guide

***Latin** America. 2R 16-si-$2.00 Harmon found. **918 La**

This is a brief pictorial discourse, approached through the natural divisions which are made in the country by the rivers and mountain systems. It touches upon the lives of peoples who have settled on a rich and colorful continent, which as a storehouse for vast, natural resources, is of world-wide importance and interest.

918.1 Brazil

***Brazil.** 2R 16-si-$2.50 Religious motion picture found. **918.1 Br**

Rio de Janeiro, and a fascinating trip up the Amazon permits the study of wild and industrial life.

el-jh-sh-c

918.6 Panama

Panama Canal Zone. 1R 16-si-$.25 **918.6 Pa**

The story of a great engineering achievement, showing the method by which the canal is operated.

el-jh-sh-c

919 OCEANIA. POLAR REGIONS

919.8 Artic regions

***Arctic** exploration. (Our world in review ser.) 10min 16-sd-$1.50 1937 Gutlohn **919.8 Ar**

Produced by Pathe News.
The National Geographic expedition to Alaska with dog team.

92 BIOGRAPHY

***Boone,** Daniel. (Chronicles of Am. photoplays ser.) 3R 16-si-$7.50 1923 Yale **92 Bo**

Adapted from "Pioneers of the Old Southwest," a chronicle written by Constance Lindsay Skinner.

Portrays the extreme dangers and hardships endured by the first pioneers to strike westward and . . . links up their exploits with the border wars of the Revolutionary period. . . . Depicts how in 1776 Boone is sent by Kentucky land owners as the forerunner of a new settlement. He establishes Boonesboro, but the colony faces extinction through sickness and Indian depredations. Boone is captured by the Shawnees. In 1778 a French officer in the British service directs an Indian offensive against Boonesboro. Boone escapes, races back to his settlement and successfully defends it against a bitter nine day attack.

el-jh-sh Guide

***Hamilton,** Alexander. (Chronicles of Am. photoplays ser.) 3R 16-si-$7.50 1924 Yale **92 Ha**

Adapted from "Washington and his colleagues," a chronicle written by Henry Jones Ford.

Reveals the fearless manner in which Hamilton took hold of the affairs of the confederation and established its credit. The picture also shows the inauguration of George Washington as first President of the United States, and recounts the story of the rebellion against the levy of an excise tax. Hamilton is first seen as an aide to General Washington during the War. These scenes were photographed around Washington's Headquarters at Morritown, New Jersey. In the reproduction of President Washington's inauguration permission was obtained to use the original copy of the Bible upon which George Washington took the oath of office. It is open at the same page, and the actor's hand rests upon the same chapter and verse as did Washington's.

sh Guide

***Luther,** Martin. Martin Luther—his life and times. (Great leaders ser.) 8R 16-si-$15.00 Religious motion picture found. **92 Lu**

This biography, photographed in the actual settings where Luther himself lived and worked, is both accurate and dramatic. It shows the gradual development, in his own experience, of the conflicts and struggles out of which Protestantism was born.

jh-sh-c

***Tindale,** William. 40min 16-sd-$10.00 Harmon found. **92 Ti**

The film is a dramatized story of the man who dedicated his life to translating the Bible into English, so that his countrymen, who understood only that language, could know the beauty and simplicity of the book to which they all adhered. The film depicts scenes of Antwerp, Hamburg, Wittenburg, and Worms, as well as dramatized scenes of great moments in Tindale's life, such as his flight down the Rhine when his secret printing press had been discovered, his departure from the English Manor House of Sir John Welsh of Old Sodbury, where he had been tutor and chaplain, and his betrayal to the guards of Emperor Charles V by a younger man whom he had befriended. In reward for his work, William Tindale's body was committed to the flames after he had been imprisoned in Vilvorde Castle near Antwerp.

930-999 HISTORY

932 EGYPT

Mummies reveal their secrets. 1R 16-si-$.25-sd-$.50 **932 Mu**

The poor families in Ancient Egypt buried their dead in paper caskets. Some of these caskets have recently been acquired by a Berlin museum to be dissected and the old records reclaimed. This film shows amazing insight into the life at that time.

el-jh-sh-c Guide

943 GERMANY

From the Chronicles of Dinkelsbuehl. 2R 16-si-$.50-1R-sd-$.50 German railroads **943 Fr**

A film, showing many picturesque spots of the thousand-year-old city, famous throughout the world as a rare example of medieval beauty. The picture ends with a historical pageant, which depicts a dramatic episode of the town's history in the Middle Ages.

el-jh-sh-c Guide

Masterdrink of Rothenburg. 2R 16-si-$.50-sd-$1.00 German railroads **943 Ma**

Rothenburg's medieval splendor has endured through the ages. Its houses and streets, many of which are over a thousand years old, have not been changed by time. This film also shows a festival play, "The Masterdrink of Rothenburg," which depicts many stirring scenes from the tragic Thirty-Years' War.

el-jh-sh-c Guide

Noerdlingen—annum 1634. 1R 16-si-$.25-sd-$.50 German tourist **943 No**

The old 14th century fortifications of Noerdlingen with their moats, ramparts and towers are today in a state of almost perfect preservation. Against this background a pageant is enacted which depicts incidents during the Swedish occupation in 1634.

jh-sh

970.1 INDIANS

***Arts** and crafts. (American Indian ser.) 1R 16-si-$1.50 Religious motion picture found. **970.1 Ar**

A detailed study of the Indian arts of yesterday and today.

Closeups reveal actual techniques and processes used in weaving, basketry, beadwork and many other crafts.

el-jh-sh-c

***His** contribution to modern civilization. (American Indian ser.) 1R 16-si-$1.50 Religious motion picture found. **970.1 Hi**

Presenting a new aspect of the American Indian, in his agricultural, artistic and cultural contributions to contemporary life.

el-jh-sh-c

*How he earns a living. (American Indian ser.) 1R 16-si-$1.50 Religious motion picture found. **970.1 Ho**

From ancient crafts, through agricultural pursuits, to training for modern industrial life, we follow the Indian in his effort toward economic independence.

el-jh-sh-c

*Looking forward. (American Indian ser.) 1R 16-si-$1.50 Religious motion picture found. **970.1 Lo**

A recapitulation of his problems and a consideration of the Indian's future. A glimpse of the young leaders upon whom that future depends.

el-jh-sh-c

Navajo children. (Primary grade ser.) 11min 16-sd-$1.50 1938 Erpi **970.1 Na**

Here are revealed, in superb photography, set in Arizona and New Mexico, the experiences of a Navajo boy and girl in moving with their family, household effects, pets, horses, sheep and goats from their winter quarters to their summer home. Following a day's journey by wagon, they camp for the night with other Navajos and after the evening meal sing native songs. In the morning, the Navajo boys hold a marksmanship contest with bows and arrows. Another day's travel brings the family to their destination. Repairing their home, planting crops, caring for their sheep and goats, and rug weaving are among the activities shown. Navajo conversation and songs vitalize this stimulating learning experience.

el Guide

*Survivals of primitive home life. (American Indian ser.) 1R 16-si-$1.50 Religious motion picture found. **970.1 Su**

Some interesting domestic methods and customs which have been handed down through succeeding generations to the present.

el-jh-sh-c

Wee Anne visits the Indians. (Wee Anne ser.) 15min 16-si-$1.00 1937 Cinegraphic **970.1 We**

This is the story of Wee Anne visiting the Paos Pueblo. She is seen at Santa Clara and also at San Ildefonso Pueblo with Maria, famous for her black pottery. She watches the Indians separate corn, sees the outdoor oven, and looks into a Kiva. Also Wee Anne visits with the Navajos at a real hogan on the Reservation where she sees an Indian blanket being woven. The film shows the life of the Southwest Indians. All this film is actually taken on these reservations and is authentic in every detail.

el

*When the white man came—and after. (American Indian ser.) 1R 16-si-$1.50 Religious motion picture found. **970.1 Wh**

Picturing the tribal and cultural distribution of the primitive Indian, his life, and the influence of the white man upon it.

el-jh-sh-c

973 UNITED STATES

Territorial expansion of the United States from 1783 to 1853. 22min 16-sd-$3.00 1938 Int. geographic **973 Te**

This film shows graphically the growth of this country from colonial times to its present continental size, exclusive of territorial possessions. This growth is depicted in chronological

order in a manner designed to accord with that in which American history is taught in the classroom.

Animated maps are used extensively to illustrate points, and the various boundary disputes are clearly explained. These maps are supplemented with authentic representations of history's great events. A review map at the end of the film reemphasizes dates of various territorial acquisitions.

Territorial possessions of the United States. 20min 16-sd-$3.00 1938 Int. geographic **973 TeP**

Continues the story of American expansion begun in 'Territorial expansion of the United States from 1783 to 1853.' The picture explains how Alaska, the Canal Zone, Hawaiian Islands, the Philippines, and the other far-flung insular possessions of the United States were acquired. Historic events pertinent to the acquisitions are portrayed. In addition striking views are presented making the student familiar with the distant possessions of the United States. Animated maps are again used extensively and the acquisition of the territories is presented in chronological order in a manner designed to conform to classroom schedules. The value of the territories, both commercial and strategic, is set forth. Film concludes with a review map which reemphasizes dates of various territorial possessions.

el-jh-sh-c

973.1 Discovery

***Columbus.** (Chronicles of Am. photoplays ser.) 60min 16-si-$7.50 1923 Yale **973.1 Co**

Adapted from "The Spanish conquerors," a chronicle written by Irving Berdine Richman.

The career of Columbus from 1485 to 1492, disclosing the discouragements, the persistent efforts and the ultimate triumph of the "mad Italian." First seen at the court of King John of Portugal, he discovers the duplicity of this monarch and starts anew on the arduous search for support which leads him, years later, before Ferdinand and Isabella of Spain. At first rebuffed, he secures a second interview through the intercession of Juan Perez and wins Isabella's aid. Then comes the departure of his tiny fleet from Palos, his dangers on the high seas, and his eventual landing upon Watling Island.

el-jh Guide

***Jamestown.** (Chronicles of Am. photoplays ser.) 60min 16-si-$7.50 1923 Yale **973.1 Ja**

Adapted from "Pioneers of the Old South," a chronicle written by Mary Johnston.

The Jamestown settlement in 1612 revealing the daily life of the colonists, confronted with the ever-present menace of the Indians whose hostility is aggravated in part by Spanish intrigue. The capture of Pocahontas, her marriage to John Rolfe, and the end of Powhatan's war of extermination.

el-jh Guide

973.2 Colonial period

***Eve** of the Revolution. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1924 Yale **973.2 Ev**

Adapted by George Pierce Baker of Yale University from a chronicle of the same name, written by Carl Becker.

Depicting the most significant incidents of the decade 1765-1775 and through these interpreting the state of mind of the people as the movement for independence gained impetus. In detail, recreating scenes incident to the Stamp Act and the stand against

"Taxation without Representation." Also recreated are: Boston Massacre, the Boston Tea Party, the Salem Assembly, the rides of Paul Revere and William Dawes, Jr., the sharp military clashes at Lexington Green and Concord Bridge and the retreat of the British.

el-jh Guide

*Gateway to the West. (Chronicles of Am. photoplay ser.) 45min 16-si-$7.50 1924 Yale **973.2 Ga**

Adapted from "The conquest of New France," a chronicle written by George M. Wrong.

Dramatization of that heroic portion of our national epic when France, working south from Canada and England, pressing westward from her seaboard colonies, began the inevitable conflict over the vast wilderness west of the Alleghanies. The film presents George Washington as the young Colonel who, sent by Governor Dinwiddie of Virginia to lodge a protest with the French, assumed command of the expedition upon the death of his ranking officer and made his courageous stand at Fort Necessity; an engagement which opened the eyes of England's ministers to the seriousness of the French menace in America.

el-jh Guide

*Peter Stuyvesant. (Chronicles of Am. photoplay ser.) 45min 16-si-$7.50 1924 Yale **973.2 Pe**

Adapted from "Dutch and English on the Hudson," a chronicle written by Maude Wilder Goodwin.

Presentation of the events from 1653 to 1664 through which Dutch New Amsterdam became English New York. Life in the picturesque colony; the frivolity of the court of Charles II, King of England; the decision to send a fleet to New Amsterdam; the growing revolt of Stuyvesant's citizens against his autocratic administration; the arrival of the English fleet; Stuyvesant's determination to resist; and his ultimate surrender. Professor Dixon Ryan Fox of Columbia University wrote the script and supervised the production of this subject.

el-jh Guide

*Pilgrims. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1923 Yale **973.2 Pi**

Adapted from "The fathers of New England," a chronicle written by Charles M. Andrews.

The struggle for religious freedom as typified by the story of the Pilgrims. Beginning with the experiences of the Separatists in Scrooby, England, the film traces their migration to Holland in 1607-08, and, twelve years later, the departure of the devout band for America. It depicts the voyage of the Mayflower, the landing on Plymouth Rock, the hardships and sufferings during the first winter and the courageous refusal of the Pilgrims to return to England. In the scene showing the signing of the Mayflower Compact, the document used is reproduced from a copy of the original made at the time by William Bradford.

el-jh-sh Guide

*Puritans. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1924 Yale **973.2 Pu**

Adapted from "The fathers of New England," a chronicle written by Charles M. Andrews.

Contrasts the economic background of the Massachusetts Bay Colony and life in early New England (1630), with the court of King Charles I. It reveals the political moves behind Thomas Morton's effort to discredit the Puritans in England and to bring about the revocation of their charter. It traces the rise of dissension within the colony, including

the departure of Roger Williams, and portrays the capable leadership of Governor Winthrop in successfully bringing the colony through this dual crisis in its affairs. The elaborate scene showing the Council Chamber at Whitehall is a true reproduction of a portion of the famous palace.

el-jh Guide

*Wolfe and Montcalm. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1924 Yale 973.2 Wo

Adapted from "The conquest of New France," a chronicle written by George M. Wrong.

Recounts the work of William Pitt, England's great war minister. In detail, the film explains the situation in world politics which prompted Pitt to send an army overseas in command of General James Wolfe. It reveals successively, the situation in New France, with General Montcalm hampered by jealousy of Vaudreuil, Governor General; the military strategy of Wolfe in his attack on Quebec; Montcalm's desperate defense; and the clash on the Plains of Abraham. Locations over an area of two hundred miles were investigated in order to find an unhampered terrain corresponding physically to the original appearance of the Plains of Abraham. The massive wall and the St. Louis gate of Quebec were reconstructed to exact scale.

el-jh Guide

973.3 Revolution. Confederation

*Declaration of Independence. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1924 Yale 973.3 De

Adapted from "The eve of the Revolution," a chronicle written by Carl Becker.

An account of the efforts of a small group of patriots to bring about a unanimous vote in favor of independence which reveals the three outstanding attitudes of public opinion in 1776 as represented by Tories, Conservatives, and those in favor of absolute independence. The influence of Pamphleteers, typified by Thomas Paine and his "Common Sense," the unofficial gatherings of delegates, the concern of John Adams, Franklin and others as to the attitude of France, the proceedings of the Second Continental Congress culminating in the famous session of July 2nd, 1776, when a unanimous resolution for independence was secured. The formal adoption of the Declaration of July 4th, and the subsequent excitement.

el-jh Guide

*Vincennes. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1923 Yale 973.3 Vi

Adapted from "The Old Northwest," a chronicle written by Frederic Austin Ogg.

This is the story of the struggle for supremacy along the frontier when the American colonies were fighting for independence in the east. Hamilton, British Governor General of the Northwest, occupies Vincennes to curb the influence of westward-spreading pioneers. George Rogers Clark, to rid the country of Hamilton and his Indian allies, strikes out from Kentucky and reaches Kaskaskia before cold weather in 1779. Hamilton, protected by an impenetrable wilderness, feels secure until spring. Grasping his opportunity, Clark presses across the 'Drowned Lands' and captures Vincennes, breaking the influence of the British over the Indians and winning for the Republic the vast territory from which later were formed the states of Ohio, Indiana, Illinois, Michigan, and Wisconsin.

el-jh Guide

*Yorktown. (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1924 Yale 973.3 Yo

Adapted from "Washington and his comrades in arms," a chronicle written by George M. Wrong.

The progress of the War of Independence between January and October, 1781. The

hardships and suffering of the American troops; the problems confronting General Washington due to discouragement and interference; the international aspect of the campaign of 1781; the aid rendered by the French leaders; the march of the American army south to Yorktown; the arrival of the French fleet; the complete outwitting of Clinton and Cornwallis; the battle of Yorktown, and the surrender of Cornwallis are all depicted.

el-jh-sh Guide

973.7 Civil War

***Dixie.** (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1924 Yale **973.7 Di**

Adapted from "The day of the confederacy," a chronicle written by Nathaniel W. Stephenson.

This film relates the story of the civilian South throughout the Civil War, revealing the heroic part played by the women of the Confederacy and the position and attitude of the slaves. To this end, it traces the experiences of a typical Southern family behind the lines, from the time its men ride off to the war to the final months of struggle.

el-jh-sh Guide

978 Western states

***Frontier woman.** (Chronicles of Am. photoplays ser.) 45min 16-si-$7.50 1923 Yale **978 Fr**

Adapted from "Pioneers of the Old Southwest," a chronicle written by Constance Lindsay Skinner.

This is the story of the settlement of Watauga, in the mountains of Tennessee, in 1780. Practically all of Watauga's fighting men had ridden with John Sevier against Major Patrick Ferguson, Tory terrorizer of the frontier. With every trader bringing fearful tales of Indian uprisings the courageous women carried on alone and refused to recall their warriors, who, thus freed, fought and won the battle of King's Mountain, a victory that was a prelude to the defeat of Cornwallis.

el-jh Guide

F FICTIONAL FILMS

***Along came a duck.** (Toddle tales ser.) 10min 16-sd-$1.50 Gutlohn **F-A1**

A toddler follows an errant duck, who leads him to a frog, telling a story about his own ducky adventures. Partly animation, partly straight photography.

el

***Children's hour, No. 1.** (Children's hour series) 10min 16-sd-$1.50 1937 Gutlohn **F-Chi**

This includes scenes of the adventures of bunny, gingerbread castle, and red riding hood.

el

***Children's hour, No. 6** (Children's hour series) 10min 16-sd-$1.50 1937 Gutlohn **F-Ch6**

This includes scenes of the barnyard scandal; the marionette, Whimsey; nature's evil killer, the spider; ghosts, chemicals; and once there were three bears.

el

*Grandfather's clock. (Toddle tales ser.) 10min 16-sd-$1.50 Gutlohn F-Gr

Produced by Van Beuren, 1934.

Two children—a boy and a girl—are told about care of clocks by the large grandfather's clock. Cartoon type with alarm clocks at school, playing football, being injured and repaired.

el

*Little bird told me. (Toddle tales ser.) 10min 16-sd-$1.50 Gutlohn F-Li

Produced by Van Beuren, 1934.

Picture of boy in jam jar. His sister uses the expression "A little bird told me" on seeing the boy later. Bird in window then explains how he knew. Cartoon type with birds gathering news, and printing a newspaper on leaves.

el

Wee Anne and the snow man. (Wee Anne ser.) 7min 16-si-$.75 1938 Cinegraphic F-We

Bobby and Wee Anne go to the mountains to play in the snow. They roll the snow into big balls to make a snow man, whom they dress up and give a funny nose. Then they have a snow ball fight and a ride on a sled. Correlated with the explanation about snow by the teacher has instructional value.

el

Wee Anne's Christmas. (Wee Anne ser.) 15min 16-si-$1.00 1937 Cinegraphic F-WeC

The story of Wee Anne and her Cousin Michael's Christmas activities: shopping for toys, gifts for the poor, hanging up their stockings, Santa Claus coming down the chimney and putting out the toys, the joy of Christmas morning. Some of the religious significance as well as the fun of Christmas is suggested.

ps-el

For information concerning individual rentals or club rental plans for the feature pictures listed below or additional subjects, write to the Bureau of Visual Instruction, Chapel Hill, N. C.

*April Romance. 8R 16-sd F-Ap

Vienna of the 1820's. The romance of the great musician, Franz Schubert and his songs. The story is based on incidents in the life of the immortal composer, whose career was backgrounded by his unrequited love for a dancing master's daughter for whose happiness he sacrificed himself. It is richly produced and costumed, and five Schubert songs are sung by the golden voice of Richard Tauber.

*Black Beauty. 7R 16-sd 1933 F-Bl

Anna Sewell's book is followed closely in this picture, and a marvelous cast of human and animal actors present this great comedy-drama of a man's love for his horse.

*Bring 'Em Back Alive. 8R 16-sd F-Br

Frank Buck's immortal record of the Kings of the Jungle in mortal conflict. *See* him capture a baby elephant with bare hands! *Hear* the infuriated tuskers trumpeting for their lost child. *See* a 30-foot python at death's grip with a Royal Bengal Tiger. *See* the finish fight between the Kings of the Jungle—tiger and black panther.

***Harmony** Lane. 8R 16-sd **F-Ha**

This beautiful picture is presented as a trihute to the memory of America's beloved composer, Stephen Foster, by a noteworthy cast headed hy Douglass Montgomery, Evelyn Venahle and Adrienne Ames. Many of Foster's famous songs are sung during the presentation of the outstanding events of his life.

***Hoosier** Schoolmaster. 80min 16-sd **F-Ho**

This classical novel by Edward Eggleston is faithfully presented on the screen hy a cast containing such talent as Norman Foster, Charlotte Henry, Wallace Reid, Jr., Sara Padden and Otis Harlan.

***Jane** Eyre. 80min 16-sd 1934 **F-Ja**

This adaptation of Charlotte Bronte's novel is an unsophisticated, wholesome picture which tells the adventures of an orphaned English girl and her pursuit of happiness. Virginia Bruce and Colin Clive head the cast.

***Life** and Loves of Beethoven. 8R 16-sd **F-Lif**

A great musical and dramatic film, with French dialogue and English captions. Harry Baur plays the title role of Beethoven. Immortal classics of the composer, such as "Moonlight Sonata" and "Appassionata," the Sixth, Third and Ninth Symphonies are played during the action hy the orchestra of the Conservatoire of Paris.

***Little** men. 80min 16-sd **F-Lit**

Louisa M. Alcott's ever living story of child life, heautifully portrayed hy such a cast as Ralph Morgan, Erin O'Brien-Moore, Junior Durkin, Frankie Darro, Dickie Moore, Buster Phelps and Tommy Bupp.

***Old** Curiosity Shop. 90min 16-sd 1938 **F-Ol**

Charles Dickens' immortal classic, well-known to us all. Elaine Benson, Hay Petrie and Ben Wehster head the fine supporting cast.

***Wedding** of Palo. 7R 16-sd **F-WeP**

An authentic picture of life in Greenland, played hy an all native cast. Produced and photographed hy Knud Rasmussen with musical hackground by the Royal Opera House Symphony Orchestra of Copenhagen. Rated "exceptional" by the National Board of Review.

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Vol. XIX SEPTEMBER, 1939 NO. 2

GOVERNMENT OWNERSHIP AND OPERATION OF THE RAILROADS

Compiled by
E. R. Rankin

Debate Handbook

THE UNIVERSITY OF NORTH CAROLINA PRESS
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THE HIGH SCHOOL DEBATING UNION

HISTORICAL SKETCH

The High School Debating Union was organized among the high schools of North Carolina by the Dialectic and Philanthropic literary societies of the University of North Carolina during the school year 1912-13. The query of that year was, RESOLVED, *That the constitution of North Carolina should be so amended as to allow women to vote under the same qualifications as men.* Ninety schools participated in the first annual state-wide debate, which was held on February 22, 1913. Sixteen schools won both debates and sent their teams to Chapel Hill for the final contest. The Pleasant Garden high school, represented by Grady Bowman and S. C. Hodgin, on the affirmative, won the Aycock Memorial Cup in the final debate on March 7, 1913.

One hundred and fifty schools took part in the second annual state-wide debate on March 20, 1914, on the subject, RESOLVED, *That the constitution of North Carolina should be so amended as to allow the initiative and referendum in state-wide legislation.* Forty-one schools won both of their debates and sent their teams to Chapel Hill for the final contest. The Winston-Salem high school, represented by Charles Roddick and Clifton Eaton, on the negative, won the Aycock Memorial Cup in the final debate on April 3, 1914. During the school year 1913-14 the High School Debating Union was incorporated as a regular feature of the work of the University Extension Division.

Two hundred and fifty schools took part in the third annual state-wide contest on March 26, 1915, on the query, RESOLVED, *That the United States should adopt the policy of subsidizing its merchant marine engaged in foreign trade.* Fifty schools won both debates and sent their teams to Chapel Hill for the final contest. The Wilson high school, represented by Misses Lalla Rookh Fleming and Ethel Gardner, on the negative, won the Aycock Memorial Cup in the final debate on April 9, 1915.

The query which was discussed in the fourth annual state-wide contest, which was held on March 31, 1916, was, RESOLVED, *That the United States should adopt the policy of greatly enlarging its navy.* Three hundred and twenty-five schools enrolled for the contest. Sixty-eight schools won both of their debates and sent their speakers to Chapel Hill for the final contest. Miss Myrtle Cooper and Boyd Harden, speakers on the affirmative for the Graham high school, won the Aycock Memorial Cup in the final debate on April 14, 1916.

Three hundred and thirty-one schools participated in the fifth annual state-wide debate, which was held on March 31, 1917, on the query, RESOLVED, *That the federal government should own and operate the railways.* Seventy-four schools won both of their debates and sent their debaters to Chapel Hill for the final contest. The Waynesville high school, represented by Vinson Smathers and Roy Francis, on the affirmative, won the Aycock Memorial Cup in the final debate on April 20, 1917.

The sixth annual contest centered around the query, RESOLVED, *That Congress should enact a law providing for the compulsory arbitration of industrial disputes.* Three hundred schools participated in the triangular

debates on March 29, 1918. Sixty-six schools won both debates and sent their teams to Chapel Hill to enter the final contest. Thomas Burton and Will Anderson, representing the Wilson high school, on the negative, won the Aycock Memorial Cup in the final debate on April 12, 1918.

One hundred and eighty schools enrolled for the seventh annual state-wide debate on April 4, 1919, on the query, RESOLVED, *That the United States government should adopt a policy requiring one year of military training for all able-bodied men before they reach the age of 21.* Forty-one schools won both of their debates and sent their teams to the University for the final contest. The Durham high school, represented by Miss Aura Holton and Leo Brady, on the negative, won the Aycock Memorial Cup in the final debate on May 2, 1919.

Two hundred schools particpated on April 14, 1920, in the eighth annual state-wide debate on the query, RESOLVED, *That the United States should adopt a policy of further material restriction of immigration.* Forty-four schools won both of their debates and sent their teams to the University to take part in the final contest. The Asheville high school, represented by Arthur Kale and Clifton Ervin, on the affirmative, won the Aycock Memorial Cup in the final debate on April 28, 1920.

Two hundred schools participated in the ninth annual state-wide debating contest on April 1, 1921. The query was, RESOLVED, *That the policy of collective bargaining through trade unions should prevail in American industry.* Fifty schools won both of their debates and sent their teams to the University for the final contest. Miss Eunice Hutchins and Ludlow Rogers, of the Durham high school, representing the negative, won the Aycock Memorial Cup in the final debate on April 15, 1921.

Two hundred and fifty schools took part in the tenth annual state-wide debate on March 24, 1922, on the query, RESOLVED, *That the United States should enter the League of Nations.* Sixty schools won both of their debates and sent their teams to Chapel Hill for the final contest. The Durham high school, represented by Linwood Hollowell and Freeman Twaddell, on the negative, won the Aycock Memorial Cup in the final debate on April 7, 1922.

Two hundred and fifty schools participated in the eleventh annual state-wide debate on March 31, 1923, on the query, RESOLVED, *That Congress should provide for the enforcement of decisions of the Railroad Labor Board.* Sixty schools won both of their debates and sent their teams to the University for the final contest. The Elizabeth City high school, represented by Misses Ellen Mellick and Mary Dozier, on the negative, won the Aycock Memorial Cup in the final debate on April 13, 1923.

Two hundred and fifty schools took part in the twelfth annual state-wide debate on March 28, 1924, on the query, RESOLVED, *That the inter-allied war debts should be cancelled.* Seventy-one schools won both of their debates and sent their teams to the University for the final contest. The Wilson high school, represented by Miss Catherine Ware and Fred Carr, on the affirmative, won the Aycock Memorial Cup in the final debate on April 11, 1924.

Two hundred and thirty-five schools entered the thirteenth annual state-wide contest on March 27, 1925. The query was, RESOLVED, *That North Caro-*

lina should ratify the port terminals and water transportation act. Sixty-five schools won both of their debates and sent their teams to Chapel Hill for the final contest. Miss Catherine Ware and Fred Carr, of the Wilson high school, representing the negative, won the Aycock Memorial Cup in the final debate on April 10, 1925.

Two hundred and twenty-four schools took part in the fourteenth annual state-wide debate on April 2, 1926, on the query, RESOLVED, *That North Carolina should levy a state tax on property to aid in the support of an eight months school term.* Sixty-seven schools won both of their debates and sent their teams to the University for the final contest. The Winston-Salem high school, represented by Misses Mell Efird and Loretto Carroll, on the negative, won the Aycock Memorial Cup in the final debate on April 16, 1926.

Two hundred and twenty-three schools participated in the fifteenth annual state-wide debate on April 1, 1927, on the query, RESOLVED, *That Congress should enact the Curtis-Reed bill, providing for a federal department of education.* Sixty-seven schools won both of their debates and sent their teams to the University. Harry Gump and Henry Biggs, of the Greensboro high school, representing the affirmative, won the Aycock Memorial Cup in the final debate on April 20, 1927.

One hundred and ninety-five schools entered the sixteenth annual state-wide debate which was held on April 6, 1928. The query for that year was, RESOLVED, *That Congress should enact the McNary-Haugen farm relief bill.* Fifty schools won both of their debates and sent their representatives to the University. The Washington Collegiate Institute, represented by Henry Roper and Hal Hopper, on the negative, won the Aycock Memorial Cup in the final debate on April 20, 1928.

One hundred and ninety-six schools participated in the seventeenth annual state-wide contest on April 5, 1929, on the query, RESOLVED, *That the United States should join the World Court.* Fifty-nine schools won both of their debates and sent their teams to Chapel Hill. Floyd Adams and Shearod Crumpler, of the Roanoke Rapids high school, representing the negative, won the Aycock Memorial Cup in the final debate on April 19, 1929.

One hundred and eighty-six schools took part in the eighteenth annual state-wide contest on April 4, 1930, on the query, RESOLVED, *That North Carolina should adopt the proposed constitutional amendment, authorizing the classification of property for taxation.* Fifty-one schools won both of their debates and sent their teams to the University. The Goldsboro high school, represented by Miss Eleanor Bizzell and Ezra Griffin, on the negative, won the Aycock Memorial Cup in the final debate on April 18, 1930.

Two hundred and eighteen schools entered on April 3, 1931, the nineteenth annual state-wide contest on the query, RESOLVED, *That the United States should grant immediate independence to the Philippines.* Fifty-two schools won both of their debates and sent their teams to the University. Miss Marian Weil and Ezra Griffin, of the Goldsboro high school, representing the negative, won the Aycock Memorial Cup in the final debate on April 17, 1931.

Two hundred and fourteen schools took part in the twentieth annual state-wide contest on April 1, 1932, on the query, RESOLVED, *That the United States should adopt a system of compulsory unemployment insurance.* Fifty-five schools won both of their debates and sent their teams to Chapel Hill. The Curry high school, represented by Miss Katherine Keister and Nash Herndon, on the negative, won the Aycock Memorial Cup in the final debate on April 15, 1932.

Two hundred and fifteen schools entered the twenty-first annual state-wide debate on March 31, 1933, on the query, RESOLVED, *That North Carolina should adopt the sales tax as a feature of its state system of revenue.* Fifty-one schools won both of their debates and sent their representatives to Chapel Hill. The Broughton high school, of Raleigh, represented by Miss Katherine Martin and Wade Marr, Jr., on the affirmative, won the Aycock Memorial Cup in the final debate on April 14, 1933.

Two hundred schools participated in the twenty-second annual state-wide high school debate on March 30, 1934, on the query, RESOLVED, *That the United States should adopt the essential features of the British system of radio control and operation.* Forty-five schools won both of their debates and sent their teams to the University. The Thomasville high school, represented by Miss Katherine Covington and A. C. Lovelace, Jr., on the affirmative, won the Aycock Memorial Cup in the final debate on April 13, 1934.

Two hundred and twenty-five schools took part in the twenty-third annual state-wide high school debate on March 22, 1935, on the query, RESOLVED, *That the United States should adopt the policy of extending federal aid to general public education.* Sixty-eight schools won both of their debates and sent their teams to Chapel Hill. The Goldsboro high school, represented by Powell Bland and Maurice Edwards, on the affirmative, won the Aycock Memorial Cup in the final debate on April 12, 1935.

Two hundred and twenty-seven schools participated in the twenty-fourth annual state-wide high school debate on March 27, 1936, on the query, RESOLVED, *That the several states should provide for the socialization of medicine.* Sixty-four schools won both of their debates and sent their teams to Chapel Hill. The Kinston high school, represented by Miss Rose Pully and Miss Minetta Bartlett, on the affirmative, won the Aycock Memorial Cup in the final debate on April 17, 1936.

Two hundred and thirty-three schools participated in the twenty-fifth annual state-wide high school debate on April 2, 1937, on the query, RESOLVED, *That the government should own and operate all electric light and power utilities.* Sixty-three schools won both of their debates and sent their teams to the University. The Weldon high school, represented by Miss Frances Johnson and Philip Moore, on the affirmative, won the Aycock Memorial Cup in the final debate on April 22, 1937.

Two hundred and thirty-four schools participated in the twenty-sixth annual state-wide high school debate on April 1, 1938, on the query, RESOLVED, *That the several states should adopt a unicameral system of legislation.* Sixty-six high schools won both of their debates and sent their teams to the University. The Union Grove high school, represented by Miss Fern Temple-

ton and Miss Wanona Rash, on the negative, won the Aycock Memorial Cup in the final debate on April 22, 1938.

Two hundred and thirty-seven schools took part in the twenty-seventh annual state-wide high school debate on March 31, 1939, on the query, RESOLVED, *That the United States should establish an alliance with Great Britain.* Sixty-one schools won both of their debates and sent their teams to the University. The High Point high school, represented by Kermit Albertson and George Humphreys, on the affirmative, won the Aycock Memorial Cup in the final debate on April 21, 1939.

THE QUERY FOR 1939-40

The query which will be discussed this year by the high schools holding membership in the High School Debating Union of North Carolina is: RESOLVED, *That the federal government should own and operate the railroads.*

The high school debating leagues of approximately thirty-five states will discuss the subject of government ownership and operation of the railroads in their spring contests during this scholastic year. It is the hope of the central committee that the twenty-eighth annual state-wide debating contest, dealing with the important subject of government ownership and operation of the railroads, will prove one of the most successful contests thus held. The attention of debaters and of all others interested is directed to the statement of the query, with the accompanying explanations and limitations of the meaning of the query, on page 12 of this handbook.

The thanks of the compilers of this debate handbook are extended to the publishers and authors who very kindly gave permission for the reprinting of articles included in the handbook.

REGULATIONS

1. The University Extension Division of the University of North Carolina will suggest a query, to be discussed on a given date by the schools entering the High School Debating Union.

2. All secondary schools of North Carolina, however supported, offering regularly organized courses of study above the seventh grade, and not extending in their scope and content beyond a standard high school or secondary school course, shall be eligible for membership in the High School Debating Union.

3. The schools accepting this offer and thus becoming members of the Union shall be arranged into groups of three for triangular debates, the status and standards of the schools, their proximity, accessibility, and convenience of location to be considered in forming the groups.

4. Each school of every triangular group shall agree to furnish two debating teams of two members each, the one to uphold the affirmative side of the query, and the other to defend the negative side.

5. The members of the debating teams must all be bona fide students of the schools they represent. To be bona fide students, they must be in regular attendance at the time of the debate, and they must have been in regular attendance for at least 30 per cent of the school year up to and

including the date of the debate, and they must have made passing grades on a majority of the studies in some regularly organized course of study.

6. No post graduate of a school—that is, no student who has already finished a four-year high school course—shall be eligible to represent his school in the contest. This shall not serve, however, to debar those students who are in upper classes in school systems modeled after the junior-senior plan (offering a five-year high school course) unless those students have already been graduated from, or awarded diplomas by, the schools which they are now attending or other high schools. If such students, or any students, have been graduated already, or awarded diplomas, they are, of course ineligible to compete.

7. No student who became 21 years of age on or before September 1, 1939, shall be eligible to represent his school in the high school debates of the High School Debating Union.

8. The usual plan of procedure for the triangular contests will be for the affirmative teams to debate at home and for the negative teams to visit. However, whenever a plan for holding the debates on neutral grounds is favored by at least two member schools of a given triangle, then the debates of that triangle will be held on neutral territory.

9. The schools themselves shall select and agree upon the judges of the local contests.

10. In the triangular debates, each speaker shall have twenty minutes at his disposal, not more than fifteen of which shall be used in the first speech.

11. In the debates of the High School Debating Union, the order of the speakers in the first speech shall be: affirmative, negative, affirmative, negative. The order of speakers on rejoinder shall be: affirmative, negative, affirmative, negative. It is understood, however, that there is no objection to a reversal of this order of speakers on rejoinder in any given local debate, provided that such a reversal of order shall have been definitely agreed to beforehand by responsible authorities of both schools which are concerned in the given local debate.

12. The schools which shall win both of their debates shall be entitled to send their teams to the University to compete in the final contest for the Aycock Memorial Cup. It is understood, however, that the committee may arrange for an additional contest among the winning schools throughout the state prior to the final contest at the University, should this plan appear to be necessary under the circumstances.

13. In the event that one school of a triangle drops out and the committee at Chapel Hill is unable to secure a school to take its place, then the two schools remaining shall hold a dual debate with one another, with each school sending its team on the negative to the other.

14. In the event that two schools of a triangle drop out of the Union and the committee is unable to secure schools to take their places, then the remaining school shall be declared the winner over the others by their default.

15. The school having the strongest team on the affirmative side of the

query and the school having the strongest team on the negative side shall be entitled to contest publicly at the University for the Aycock Memorial Cup. (The strongest team on each side of the query is to be determined by means of preliminary contests in debate at Chapel Hill. After a contestant has been eliminated in a preliminary at Chapel Hill in this year's final contest, the contestant will not be permitted to change sides and participate further in this year's final contest.)

16. The school which shall win the debate, thus finally held, shall have its name inscribed on the Aycock Memorial Cup.

17. Any school which shall win the final contest for two years in succession shall have the cup for its own property.

18. All contestants are expected to prepare their own speeches with legitimate assistance of the teachers, principals, or superintendents in their school systems. Legitimate assistance is interpreted to mean oral advice, suggestions, discussions, and criticism.

SUGGESTIONS AS TO JUDGES

1. The judges should be disinterested parties to the success of either team and, so far as possible, should be non-local.

2. They should sit apart during the debate.

3. They should judge the contest as a debate, and at its conclusion should vote "Affirmative" or "Negative" on the merits of the debate. They should not consider the merits of the question.

4. Each judge should sign and seal his vote and deliver it, through an usher, to the presiding officer who should publicly open the votes and announce the decision.

Before the debates begin, a copy of these suggestions should be given to each judge for his guidance.

ORIGINALITY OF DEBATES

The committee realizes that "The debate which a speaker produces should be his very best; but it should under no circumstances be better than his best; that the success of the Union will be seriously hindered unless in each instance the speech of a debater represents his own individual work." It wishes, therefore, to ask the principals to give this matter their very careful consideration and to note particularly regulation 18. In cases where necessary, the principals in the various triangles should take such action among themselves as they deem necessary. Great care should be taken by all means to see to it that wherever a speaker uses any quoted material, proper credit is given in his speech to the source from which the quotation was derived.

For further information, address

E. R. RANKIN,
Secretary, High School Debating Union, Chapel Hill, N. C.

QUERY

RESOLVED, *That the federal government should own and operate the railroads.*

EXPLANATIONS AND LIMITATIONS

For the purpose of clarity of issue in the contest of the High School Debating Union of North Carolina, the following explanations and limitations of the meaning of the query are distinctly set down:

1. It is understood that the statement of the query contemplates that the federal government—through a department, bureau, agency, or corporation—should own and operate the railroads of the United States.

2. It is understood that the statement of the query contemplates that the affirmative may, if it chooses, advocate the ownership and operation of some other form, or forms, of transportation by the federal government—such, for example, as highway transportation, waterway transportation, and airway transportation; but the affirmative is not under any obligation to argue for such wider application.

3. It is understood that the statement of the query does not contemplate that a corporation, firm, or individual would be prevented from owning and operating a railroad, or railroads, for the exclusive use of the corporation, firm, or individual. Such a railroad would not, of course, serve the public.

4. It is understood that the term "railroads" relates to the rail transportation lines, or systems, of the United States. Surface and subway transportation systems in municipalities would not come within the purview of the query.

5. It is understood that any question as to the constitutionality of the proposed government ownership and operation of railroads is to be waived from the discussions in the contest of the High School Debating Union.

GENERAL REFERENCES

RAILROADS UNDER PRESSURE

(An article by Leslie Craven in the Atlantic Monthly, volume 162, pages 767-776, December, 1938.)

The railroad industry is now passing through the most difficult time in its history, and the breakdown of the system of private ownership and operation is threatened. This crisis has a significance broader than first appears. At no time in our history have there been greater scrutiny and criticism of the way in which the country carries on its business and industry. Where shall the great enterprises be poised between moderately regulated private ownership and management, and the point where an increasing public participation culminates in the totality of government ownership and operation? Are we really capable of the successful conduct of these great concerns by public management, whether it be in the form of government operation or of intensive governmental regulation of private operation? If there is to be greater public participation in the conduct of these businesses, is success actually attainable without fundamental changes in our traditions and attitudes?

Readers will generally believe, I suppose, that the railroads can present no problem so tangled that intelligence cannot solve it. A high intelligence can certainly work out the efficient conduct of such a business in a way fair to everybody concerned. But objective thinking, which rises above self or selves, is essential to the play of free intelligence. It is fundamental to the governmental administration of justice in the courts, and equally fundamental where the government acts either as a regulator of the railroads under private ownership and operation, or as their owner and operator. The right administration of such a business under either system must secure a fair apportionment of the benefits and burdens of the industry to capital, labor, management, and those who receive its service. This requires an administrative authority even-handed in its dispositions. Equality before the law must be the supreme desideratum. The problem is to prevent the obstruction of objective thinking by pressure groups dominated by definite and selfish motives. Can this be done in our democracy? Our experience in the administration of the railroad industry furnishes alarming evidence.

I

To sketch the unfoldment of the railroad problem with a broad brush: The railroads have been brought to the present crisis largely because of unintelligent policies with reference to competition. Almost no other business requires such great capital expenditures. They result in high capital costs, which are dangerous because they cannot be cut when traffic is reduced by the entrance of a competitor into the field. The investment is irrevocably committed to the venture; for a railroad, unlike a shoe factory, must continue to operate when times are bad and cannot be withdrawn from service and put to some other use in a way to save any substantial part of the investment. Consequently the building of a competing railroad line or concrete

highway, like an intelligently directed cyclone, destroys a substantial part and sometimes all of a railroad's property.

The public has been inclined to believe that the railroads could fairly be made to contend with heavy competition because they were rich, and has thought them rich because of the size of their investments. There is no animal so vulnerable and helpless as a whale in shallow water. It is income, not investment, that makes for wealth. Because railroad capital costs are so high, the public can be more economically served by a few systems handling intensive traffic (with resultant lower capital costs) than by many competitive lines unable to use their facilities to capacity. Since competition between railroads is unnatural and economically dangerous, no country in the world excepting Canada and the United States, encourages and maintains competitive systems.

In our country the railroads, a generation ago, instinctively struggled to get free from competition. But when they tried to minimize destructive rate cutting by making agreements among themselves to maintain reasonable rates, the action was held illegal under the Sherman Antitrust act, although admittedly the agreements resulted in no unreasonable restraint of trade. When they attempted to pool their traffic, in order to abolish wasteful operation due to the unnecessary building of competitive lines, their action was forbidden by the act to regulate commerce. When they turned to consolidations, they were stopped by the Supreme Court in the Northern Securities and other cases.

The purpose of the rigorous enforcement of these antitrust laws was to compel competition among businesses regarded as naturally competitive, as a means to provide fair prices by ensuring the free play of the forces of supply and demand, and to prohibit the impairment of that free play by the creation of monopolies or by lesser measure of restraint. On the other hand, the government has regulated railroad rates as though the railroads were naturally a monopoly. The fundamental justification for the regulation of railroad or other public utility rates is that, owing to the monopolistic character of the enterprise, governmental control is necessary because the forces of supply and demand do not operate to fix the price of the product as they do for competitive enterprises.

The antitrust regulation and the rate regulation thus proceeded from contradictory hypotheses. They were both rigorously pressed, and an overregulation resulted. This was entirely natural; it had its genesis in the group antagonisms expressed in the Granger movement, and reflected the influence upon governmental policy of the opposition of the politically powerful agricultural and shipping classes to the absentee and politically ineffective owners of the railroads, which had been built primarily with money secured or controlled in the east, and which were directed by interests regarded as alien to the agricultural communities. Railroad regulation has had, consequently, what is largely an emotional, rather than an economic, background. Had the population been entirely homogeneous and the railroads been built with the money of those who were most influential in their regulation, the governmental policy would not have reflected the antagonisms which

proceeded from disunity, and pressure-group action would have been less effective.

The dangers of this over-regulation began to be recognized by the experts as early as 1910. The industry had reached the all-time peak of its prosperity in the first decade of the century and was too vigorous for some years to show any marked effects of the maladministration. The sturdy farm lad could stand the country doctor's kitchen-table operations. It was not until after the war that the country began to awaken to the situation. The government had operated the railroads during the war and returned them to their owners in such a weakened condition and with such increased operating expenses, due in part to wage increases, that it was obvious that government ownership could be averted only by the passage of legislation that would correct fundamental evils in the conduct of the railroads. Evidence of the possibility of greater economy and efficiency through eliminating competition had been afforded by the consolidated operations under federal control during the war. The difficulty of the governmental operation of such a great enterprise, through the inclination of the politicians to operate the property to secure political effects, had been made apparent. The fear of a serious breakdown had united almost all groups to support a comprehensive program of constructive legislation, designed to stabilize private ownership —a program written into the transportation act of 1920.

This act went far to reverse the national policy as to competition. With the purpose of unifying the railroads into a few stronger systems, it authorized consolidations. Conventional thinking still prevented the full expression of a new attitude toward competition in this act. Consolidations were authorized, but were hamstrung by the provision that competition, even under effective commission regulation, was to be freely preserved; and consolidations were permissible only in accordance with a plan which the Interstate Commerce Commission was authorized to prescribe.

This provision was as impracticable as a eugenics scheme under which all mating must be done under a doctor's orders. About such selections the young people still hold ideas of their own. Because the legislation was unskillful, few consolidations resulted; although the commission, under this act, did approve three unifications forbidden in the "trust-busting" days of the Supreme Court—in cases involving the merger of the Hill lines which had been dissolved in the northern securities case, the control of the Central Pacific by the Southern Pacific, and the control of the Delaware, Susquehanna & Schuylkill by the Lehigh Valley.

Although this legislation was a partial recognition of the need of abandoning the congressional policy as to competition, the unwillingness to adopt a new policy fully and the consequent inaptitude of the legislation frustrated the intended improvement. Throughout this period the government had in every possible way stimulated the competition of non-railroad carriers. The declared purpose of Congress was to maintain unrestrained competition by the water carriers, both on intercoastal and inland water routes, and such carriers were subject to no regulation excepting as to the joint rates made with the railroads. Great sums were invested in the Panama Canal and in

improving the canals and riverways, and the government subsidized the barge lines and itself operated them in competition with the railroads.

The railroads were now confronted with a new danger in the remarkable development of the sharply effective competition of the motor carriers and pipe lines. The increase in investment in all transportation facilities between 1920 and 1932 represented a capital outlay of substantially $25,000,000,000. The part of this additional outlay which was invested in non-railroad facilities was about equal to the recorded investment in railroad property in 1920. This great increase in the transportation plant came without any corresponding increase in business, and meant therefore a destruction of railroad investment values. There were, rather, decreases in the railroad business. The coal traffic of the railroads has been curtailed by the incursions of fuel oil, natural gas, and the transmission of electric power; and the decentralization of the manufacturing business has reduced rail shipping. For large plants, formerly located in large centers of population and transporting their products to distant markets by long rail hauls, scattered small plants, whose products move shorter distances, largely by truck, have been substituted.

The development of this competition between the railroads and the other means of transportation removed the last vestige of any claim that it was necessary to continue the enforced competition among railroads. This new increase in transportation facilities requires a national policy fully recognizing that such competition is not required for the public good, and that the evils of a system of non-competitive railroads can be effectively curbed through regulation and the competition of non-railroad carriers. A re-adaptation of railroad facilities was called for when the country's transportation needs were revolutionized by the tremendous development of automotive transportation. Railroad systems, developed a generation ago in a competitive pattern which has remained substantially unchanged, require reorganization if they are to secure the economy and efficiency without which they cannot survive the new competition. In the transportation world, as elsewhere, the only permanence lies in change, and the static does not endure.

II

Disinterested observers generally sustain the conclusion of the Interstate Commerce Commission, voiced in a recent report to the President, that salvation for the railroads does not lie in the reduction of fixed charges. While some roads have excessive capital structures, the capitalization of the railroads generally, judged by investment, is relatively low. This was conclusively demonstrated by the valuations made by the commission at the expense of $185,000,000 under the valuation act of 1913. It is true that about nine-tenths of the railroads are now unable to earn the fixed charges on their funded debt, but this does not indicate that the debt load is generally excessive or that a program of debt reduction will solve the problem. About half of the railroads, including some of the finest properties in the country, are not even earning their operating expenses, much less fixed charges. Reducing their capitalization may benefit them, but will never stabilize them. When the ship is high and dry on the sands, you cannot float it by reducing its draft.

There is no remedy but to increase the income. To do so, expenses have got to be cut. During these years of starvation, railroads have cut operating expenses to the bone. But the competitive action is continued, and even intensified by the hard times. It has been proved beyond question that the competitive practices have led to great waste. The railroads were built, and are operated, as individual systems for the primary purpose of securing the greatest individual competitive advantage, regardless of any consequent duplication of facilities and service. And this excess of service and facilities has now been increased by the new facilities added by the non-railroad competitors. The railroads are operated by men for whom competition is the law of life, who give no quarter, and who are trained in the competitive practices which the law has either required or not forbidden. It is only by the elimination of the competitive excesses that the industry can be stabilized and government ownership or subsidation prevented.

With full recognition of these elements of the problem, Congress passed the emergency railway transportation act of 1933, in a carefully developed attempt to stabilize the industry through the elimination of uneconomic competitive action. The act created the office of the Federal Coordinator of Transportation and gave the incumbent the task of working out the purposes of the statute. Joseph B. Eastman, a man of liberal tendencies and one of the best men in public life, was chosen to administer the act. It gave the coordinator the authority to compel coordinative action by the railroads where necessary, and granted relief from the burden of the antitrust laws in any action taken in compliance with this law. The act also required the coordinator to make the investigations basic to any further legislation that might be needed for the concrete realization of the purposes of that act. Congress recognized that in dealing with these technical subjects it must write objective-minded legislation instead of hurriedly prepared statutes representing pressure-group action.

Competent and intensive research conducted by the staff of the coordinator covered the entire range of possible coordinative action and the resultant economies—beginning with the joint use of passenger stations, or other simple facilities, and ending with coordination in the nth degree, which is consolidation into a single great system. Short of this extreme, there are various intermediates involving partial unifications—namely, the unification of the entire freight and passenger terminals of competing lines in the larger towns and cities; the pooling of less-than-carload freight operations of all carriers by means of national systems similar to the express companies; the pooling of all freight of all lines either on a regional or on a national basis; and the pooling of the cars of all lines in a manner similar to the Pullman Company unification of sleeping-car service.

Such coordination would leave the present operating companies intact. But if any great number of such coordinations were put through, the result would be a highly cumbersome and complicated administrative organization. The great group of corporations now in the field would continue to exist. Each would separately carry on the uncoordinated part of its carrier activity, but a large part of its operations would be conducted by a number of joint agencies operating the coordinated facilities or services. The creature

would continue to live, but with only partial control of its hands and feet. Consequently the weight of opinion among railroad men is against any effort to attain unifications by coordination. The way seems to lie through consolidations.

III

Consolidations were the means used to avoid government ownership of the British railroads and are now being seriously considered in Canada. The British statute which ordered the unifications required that the 120 railroads be consolidated into four regional non-competitive systems, and that the securities of the constituent roads be traded for the securities of the consolidated systems on a prescribed valuation basis, derived from the earning capacity of a year of good earnings immediately prior to the war. Within a year and a half the stipulated consolidations were accomplished and the securities were exchanged without litigation or even substantial dispute. It is generally agreed, moreover, that the exchange was abundantly fair. After the consolidations had been put into effect, the competitive traffic between the four systems was pooled, thus eliminating competition completely. Although the full economies resulting from the consolidations were slowly attained because of provisions that prevented the brunt of the elimination of surplus labor from falling upon the men, the systems are now operated with far greater economy than ever before, their solvency has been established, and government ownership averted.

This was one of the most brilliant exhibitions of administrative intelligence of which there is a record. There is no evidence that the efficiency of the British action was due to the fact that the government's power is less subject to constitutional limitations there than here. The adjustment of the securities was made on a fair basis which satisfied the security holders and the public, and the acceptance of the awards was due rather to the fairness of the administrative action than to any lack of constitutional protection against unfairness. High achievement in working out these difficult adjustments of human relationships by an administrative agency is attained, apparently, rather through the power which arises from good administrative intelligence than through any "right" to act arbitrarily derived from a freedom from constitutional inhibitions, for magnanimity can lead to heights to which force cannot drive. In this distinction probably lies the obvious superiority of British administrative processes over ours. A people's freedom and harmony lie in their magnanimity, not in their constitutional forms.

Yet consolidations had to be compulsory in England and would have to be here. Certainly Congress, acting well within constitutional boundaries, has full power to act effectively in setting up a compulsory consolidation program. Experience under the transportation act of 1920 has demonstrated that if there are to be consolidations they must be compulsory, because the great individuality of the separate managements, controlled by men little inclined to forego their personal positions, and who are loyal to their particular railroads above all else, is such that, in the present crisis, voluntary consolidations would lead to too great a delay. Furthermore, under any non-compulsory program, it is certain that uneconomic and inefficient groupings would be

formed—because of the inevitable inclination of the individual roads, if they control the pattern of the consolidations, to grab favorable lines in an effort to build up their own power. This would, of course, leave the map strewn with scattered fragments of undesirable property. The general pattern must be described by Congress, but as far as possible the working out of details should be left to the initiative and enterprise of the managements. For the government to lead and to secure, with as little compulsion as possible, a result for the good of the public, without injury of the rights of the individual carrier, is a task sufficient to challenge the highest administrative capacities. But the English did it.

Consolidations should not be regarded as the sole means of straightening out the railroads, but as an important measure adopted, among others, in a general program inaugurated by the government and designed to meet a complex problem which has other difficult aspects. It is very difficult to estimate what savings could be accomplished by consolidations, since the amount saved will depend upon the nature and condition of the plan under which it is inaugurated. The savings from a seven-systems plan (without consideration of the temporary expense due to the protection of labor hereafter discussed) have been estimated by those favoring such a plan at as high a figure as $743,000,000 a year. Officials of the railroads, who probably were ultraconservative because of their antagonism to such a program, studied the estimate and reduced the figure by two-thirds. But the savings attainable are unquestionably great and probably approach a figure as high as $500,000,000; although, for the reasons indicated, accurate estimation is extremely difficult.

What solution of this problem can be reached depends upon none of these considerations of administrative or managerial technique. Nor does it depend upon what, among the various alternatives, is best for the welfare of the country. It depends upon what happens in the field of practical politics, and, as Lloyd George has aptly observed, "politics doth not proceed by prayer alone." Because of the pressure upon Congress of railroad labor, the emergency transportation act was dropped in the summer of 1936, on the eve of a national election when the Washington air was surcharged with politics. This abandonment of an aggressive and intelligent effort by the government to work out a solution of the railroad problem was aided and welcomed by the railroad managements. This was in the summer of 1936, when no recession was anticipated, and when they believed that returning good times would remove the crisis. But, speaking more fundamentally, the managements very naturally fear the hazards of any thorough reorganization of the railroad business through compulsion by the government and they are inclined to believe that what may be right by voluntary action becomes wrong when compelled.

Since the lapse of this legislation, Congress has made no effort to declare a national railroad policy. In the meantime, because the government has shown no intention of stabilizing the situation, the railroads have drifted and sunk deeper into insolvency. In the summer of 1938, Congress, under the pressure of labor and on the eve of elections, declined to pass an act authorizing a liberalization of the terms under which loans can be made to the railroads by the Reconstruction Finance Corporation—and declined because the

railroads would not consent to a provision stipulating that the recipients of loans would not reduce wages. Strangely enough, the creditors refused to lend if the debtors insisted upon following a course which would help to keep them solvent. Meanwhile the plight of the railroads (which are faced with rising costs and with the continuous further development of automotive competition) has become increasingly worse. The house already divided against itself has been brought to further desolation by a continuance of competitive excesses. Nearly one-third of the railroad mileage of the country is now in the hands of the courts, bankrupt and paying no interest. About one-half of the mileage has not earned enough this year to meet even its operating expenses and taxes. Nearly nine-tenths of the mileage has not earned enough to meet operating expenses, taxes, and fixed charges. Only about one-tenth of the mileage has earned anything for reserves, improvements, or dividends. Because there is no constructive national policy, the industry is thoroughly demoralized. When the government's participation reaches a point where the government controls the essential pattern of the enterprise and that participation is either unenlightened or blocked, as the result of pressure-group action, the economic substance of the property is soon dissipated. When governmental action is at the center of an industry, the prosperity of that industry depends correspondingly upon the action taken by the government.

IV

Labor's objection to coordinations and consolidations is natural enough; for, if the railroads can accomplish them, they will be able to dispense with a large amount of unnecessary labor. To illustrate: were the freight facilities in Chicago consolidated, 10,000 men could be released from work; in Kansas City, 1600; in cities like Portland, Oregon, about 250. There are now about 915,000 railroad employes. No exact figures are available, but large-scale consolidations, according to the best authority, would probably result in eliminating about 75,000 men.

No one thinks that these men should be turned out on the street. Human thought frequently develops with no consistency. Were Congress to pass a law tomorrow forbidding bankrupt farmers to discharge their hired men, and requiring all bankrupt manufacturers, on consolidating their factories, not to discharge any employes, the reaction against such legislation would shake the country. Yet the emergency transportation act of 1933 forbade the carriers, when they coordinated or consolidated their facilities or operations, to discharge any employes on the payrolls in 1933, and the country has hardly heard of it. Similar protection was given railroad employes by the British consolidation act. In the summer of 1936 the railroad unions and the managements in this country signed a contract, agreeable to both, under which very substantial protection—in the form of "dismissal compensation"—was provided for railroad labor in any future coordinations or consolidations. Such action expresses more than the great political power of organized labor. It indicates a social consciousness awakened to the necessity of protecting employes, in some reasonable measure, against the loss of employment that accompanies improvements in the method of conducting the business. When an obsolete machine is junked, its trained operator is not to be junked along with it.

In all discussions of railroad unifications the need of a fair measure of such protection is generally taken for granted. But, as a result of the uneconomic operations maintained in order to prevent these men from going on relief (a burden which the investors in other industries were not forced to bear), those who have held the stocks and bonds of the railroads have had to make great sacrifices of their investments. It is clear that the employes should be protected, but it is not clear that these investors, instead of society as a whole, should bear the cost. So to require was clearly class legislation. If the industry is to bear the cost, the government should first provide by suitable regulation such earnings that the industry can bear the cost out of income, instead of by a sacrifice of capital.

It is important to observe the relative size of the groups of people that are involved. If the railroads were consolidated into seven or eight major systems, it is probable that about 75,000 men would lose their jobs. Even if no dismissal compensation were provided (as would not be the fact), such a loss of employment is not great compared with that caused by the depression and disorganization of the railroad business, as is shown by the fact that, owing in part to the recent recession of business and in part to a wage increase, the railway employment from July 1937 to June 1938 decreased from 1,174,000 to 914,000 or by 260,000 men. On the other hand, the stabilization of a great industry indirectly involves millions of our people. Forty per cent of our railroad bonds are in default. Over half of them are owned by insurance companies, savings banks, large and small town commercial banks, and educational institutions. There are 60,000,000 holders of insurance policies, and 15 per cent of the assets of the insurance companies are in railway bonds. There are millions of railroad stock and bond holders. Furthermore, the depression of the railroads has a profound effect upon the so-called heavy industries. Whereas, ordinarily, the railroads are great purchasers of such things as lumber, coal, and steel, their purchases are now scant.

It is evident how small is the group of employes whose interest, as the result of pressure-group action, is made paramount over the interests of far greater groups of our people. The increased purchasing power of the country due to the continued employment of this small group seems to be entirely outweighed by the adverse consequences of the continued demoralization and disorganization of the railroad industry. The recovery of the whole nation is retarded.

In the last analysis the only assurance of the right conduct of the nation's railroads, whether in private or public operation, lies in an enlightened and enforced public opinion. There are certain groups that are interested in the statesmanlike management of the railroad enterprise: the insurance companies, savings banks, and other such institutions, and their beneficiaries; the other investors and the shipping public. The ascendency of organized labor in Congress is due to the inaction of such groups. They far exceed in number the labor or railroad management groups, but are either inarticulate or incapable of effective action. However it may have been a generation ago, in these days the legislator listens with little interest to a side as unpopular as that of the railroad corporations. The stock of a typical great railroad company is owned by thousands of holders, none holding more than 2 or 3

per cent of the total stock, most of whom are women, and who are disorganized, probably incapable of effective organization, and politically entirely ineffective. The legislators know it is only theoretically that the railroad executives represent these stockholders; that the mechanism of control of these great corporations is such that the stockholders ordinarily do not actually participate in the company's affairs, and that the management is not actually selected by them. The insurance companies, savings banks, and educational institutions which own the majority of the railroad bonds are conservative institutions unaccustomed to political action.

Labor has had to fight, and is accustomed to fight for everything it gets. The railway unions are highly organized and extend throughout every part of the country. Their political strength depends upon their organization, not upon their numbers. The national leaders of these unions are intelligent and aggressive men. They drive with a hard hand. These officers are ordinarily more demanding and uncompromising than the men themselves; for in order to maintain their positions of leadership, which are elective, they must continually overplay their parts. Under such circumstances Congress, like a ball on a level floor, moves under the heaviest pressure applied, even when it comes from a minority, and when congressional inaction on a technical problem involving class antagonisms can be readily secured by a minority group.

V

Certain things are clear. Fundamental to the sound public regulation of such a business is a just apportionment of the benefits and burdens of the conduct of the industry among capital, labor, management, and those who receive its service. Congressional determination of a question such as the extent to which the railroads shall be consolidated goes to the very root of the business and fixes its pattern. Such a determination makes or destroys the value of the property, and affects the jobs of the employes as well. No court ever decided a case involving sums of greater magnitude. When the government thus acts in a legislative capacity it is important that it proceed, if justice is to be done, with the same full recognition of the principle of equality before the law as when it acts judicially. The recognition of that equality is a fundamental principle of our democratic government.

Aside from any standpoint of ideals—that is, from a purely practical standpoint—the achievement of such equality before the law seems to be essential to the successful operation of the capitalistic system, or of any system short of that of a totalitarian government committed to overriding the minority interests. The capitalistic system cannot function successfully unless capital is given that protection which is its just due. What are called the "property rights" of capital are actually human rights. The large ownership of railroad securities by fiduciary institutions and small investors cannot be disregarded on the mistaken assumption that "Wall Street owns the railroads." Similarly, labor must be rightly treated because its wages determine the extent to which men in its ranks can lead the abundant life. Elements of the highest human value are therefore involved. Both capital and labor must proceed under the full protection of the law administered in even-hand-

ed justice. These enterprises cannot be run primarily for the benefit of either capital or labor.

Our government has now entered upon a new era; it has definitely undertaken what is a participation in business and, in some instances, the sole conduct of great social enterprises. It is now in the very center, and not on the mere periphery, of their being. Forms of economy are proposed which involve, in a large measure, a socialization of business. If these socialized endeavors are to be established, it should be upon a basis that takes full cognizance of the social obligations which are involved, and there must be an even-handed administration of justice for all groups. Unless an attitude of objective-mindedness can be made to prevail, the country must face conflict and disorder in its conduct of these enterprises; and whether the people own them in the form of private or of government ownership will make no real difference. So far as our railroads are concerned, able and disinterested intelligence, if unobstructed, will make either form succeed; for achievement depends upon intelligence and not upon such forms. But a pressure-group domination of the present private ownership and operation, which has required uneconomic operation for the benefit of those groups, is very likely to be succeeded by a similar pressure-group domination of government ownership and operation; for the same groups will be benefited by operations conducted uneconomically under national operation.

Were there government ownership, great economies would be secured through consolidation, and steps to effect it would come first in any governmental program. But under government operation the preservation of unnecessary jobs would be even more persuasively urged upon Congress than now. If there were no government ownership it is not difficult to foresee the great political stress which would be used to secure preferred rates for certain states or regions, the construction of new lines and other facilities, and the continued operation of uneconomic property—all for the benefit of organized minority interests. Congress has always shown less power of resistance against pressure groups seeking advantage at the expense of the treasury than at the expense of private capital; and our people are now becoming accustomed to take government generosity toward such groups for granted.

Our democracy cannot live if we cannot work out the nation's problems. How far it will solve its problems will depend upon how far its action can be objective-minded and in accordance with principle. Deference to pressure groups means departure from principle. Deference to pressure groups means compromise, and compromise means departure from principle. The cure for the problems of democracy is not more democracy, as President Roosevelt has said, but more intelligence. Measure the intelligence demonstrated by a democracy and you will know how far that democracy can make its people free.

RAILROADS IN THE RED

(An article by Charles W. Hurd in Current History, volume 50, pages 24, 26, and 64, July, 1939.)

No child of the New Deal, the railroad dilemma is a mature problem which has been agitating the country since the days of Grover Cleveland. For years the problem has been filled from top to bottom with politics. Now grim necessity has started to shake the politics out of it.

Today railroads and their rates are in the news again. When several of the great systems serving the northern United States announced they would institute "zones" for basic passenger traffic, attention was once more directed to Washington where railroad legislation is still on the "must" list facing Congress during its closing weeks. A perennial orphan, the railroad problem, always acute in the past ten years, has been intensified both by the business slump since 1937 and the rapid growth of competition.

The fact that legislation is on the "must" list does not mean a definite plan will be forthcoming. A step, however, was taken late in May when the senate passed, seventy to six, a voluminous bill designed primarily to enlarge the jurisdiction of the Interstate Commerce Commission to include all form of interstate commerce. It would give the railroads opportunity for improvement equal to that now enjoyed by their chief competitors—trucks, buses, and barges—and would subject all to equal supervision. In addition it would provide for a special court to handle bankruptcies. Another measure, the Chandler bill, to facilitate reorganization and to reduce swollen capital structures awaits the President's signature.

The senate bill proposes a long-range program, as contrasted with Reconstruction Finance Corporation stop-gap loans which for seven years have been applied like poultices to the sorest spots on corporate anatomies.

The problem is acute because the railroads are indispensable. Collectively speaking they are starving to death, but it is unthinkable that they should cease operations. Although they suffer from every improvement in twentieth century transportation, nothing can take their place. Agriculture and industry depend on them more than on any other form of transportation and the public economy demands that the trains run, regardless of profit and loss.

Only the railroads can handle heavy freight in quantity. Only the railroads can handle the commuting problem of the largest cities. At the present stage of development, their passenger services are indispensable. Yet, with a few exceptions, the railroads are running at a loss and too often under trusteeships, a condition similar to that of a private business being operated by bondholders hopeful of salvaging something.

With the exception of a half a dozen larger roads, none can make ends meet in the $60,000,000,000 economy which is supposed to be the gauge of current business in the United States, and even the raising of business to an $80,000,000,000 level would help them little.

Railroads have too much money invested in them. With current operating revenues yielding virtually no profit, they must try to carry capital securities

estimated by competent authorities to be $22,000,000,000 of which $12,000,000,000 represents bonds, debentures and trust certificates requiring fixed interest payments, and the remainder, preferred and common stocks. About one-fourth of the total is against insolvent roads. Consequently in 1937, a relatively prosperous year and the last one for which there are figures, the railroads paid dividends on only $3,890,000,000 worth of the $10,000,000,000 stock outstanding.

In that year, the last of record, and concededly a better one than 1938 or the early part of 1939, the railroads took in a little more than $4,000,000,000 and spent on direct operation a little more than $3,000,000,000, or about 75 per cent of their income. At the same time, according to reliable reports, they paid out 30 per cent of their income on fixed charges in addition to operating expenses—i. e., 8 per cent for taxes, 12 per cent for upkeep and maintenance of rights-of-way, and 10 per cent in interest. These figures account for 105 per cent of operating revenue, leaving less than nothing for interest in default, amortization, replacement of equipment, and the thousand and one other items which keep a transportation system up-to-date.

Of course, certain railroads have never been solvent. No industry can show a perfect record, and probably no industry has experienced the same amount of pirating and skullduggery which have accompanied isolated cases of railroad development. Thirty years ago the railroad picture was quite different from what it is today.

Just one generation ago, the railroads generally were efficient, prosperous and arrogant, aware of the country's need for them and proud of the monopoly they exercised. In 1910 crack passenger trains and "red ball" freights roared through the country, giving service, paying profits—and making enemies. They owned much of the best land, set their own rates within the limits of sketchy regulation, and to a large extent acted as overlords of American economy. Their securities were gilt-edge, issued and reissued in pyramids to avid investors—among them, insurance companies, trusts, widows and orphans.

During this era intercity bus and truck operation hardly existed. The railroads had a net capitalization of $14,375,000,000, received a net operating revenue of $2,812,000,000 and had operating expenses of only $1,881,000,000. Interest was met on almost all fixed obligations and dividends were paid on stock with an aggregate value of $5,412,000,000.

Ten years later when the railroads were recovering from the shock of government operation in wartime and operating on radically new and higher income and cost levels, they were nevertheless holding their own, showing a profit on volume, although a small one. Net capital had been increased by $2,600,000,000 in a decade, but dividends were paid in 1920 on more than $5,000,000,000 worth of stock. Operating revenue soared to $6,310,000,000, with operating costs winging up to $5,954,000,000. The condition was unhealthy, but the country was optimistic and buses and trucks still were subject to broken axles, engine failures and uncertain schedules.

With the rest of the industry, the railroads rode the boom through 1929, with a further increase in net capital, only to be caught in 1930 with an

operating revenue of only $5,356,000,000, compared with an outstanding paper value of $19,065,000,000.

Although railroad depression was on with a vengeance in 1930, the roads scraped from reserves to pay dividends on stock worth $7,702,000,000. Freight had dropped off very little between 1920 and 1930, operating revenues on this score sagging only from $4,420,000,000 in 1920 to $4,145,000,000 in 1930, but in the same decade passenger revenue on the railroads fell from $1,304,000,000 to $730,000,000.

The end of 1937 found the railroads already suffering from accumulated ills which hindsight shows were developing long ago. While their capital structure held almost at the 1930 level, operating revenue fell back to $4,-250,000,000 and operating expenses remained about $3,000,000,000. Meanwhile all their taxes were higher and deterioration was more and more serious. Freight revenue in that year fell to $3,428,000,000—it is lower today—and it is notable that the 1937 freight revenue just about hit an average between the incomes for 1910 and 1920. On the passenger side it dropped to a thirty-year low of $443,000,000.

As for buses, there is one little figure available which tells a great deal. It shows that in 1937 buses operating on intercity routes—the buses which compete directly with railroads—enjoyed a revenue of $298,000,000. This figure reveals that people—aside from persons who drove their own cars—paid more for public motor transportation in 1937 than they paid for railroad tickets in 1930. (But they paid three-sevenths of the 1937 expenditures for bus tickets.)

Although what truck competition actually amounts to is as yet unknown, the fact that trucks have not only captured much basic freight but frequently "skimmed the cream from the milk" is serious.

Because all tons of freight do not pay the same rate the phrase means a ton of coal or iron ore pays considerably less per mile than a ton of manufactured automobiles or fruit. In many cases now the railroads still haul the coal but the fruit goes by truck.

Then there is the as yet negligible but growing factor of water competition, which affects primarily heavy freight for which speed is no object. Here the government is competing with the railroads by building up an intercoastal fleet, with the aid of subsidies, and then subsidizing operations of the vessels so built.

If the railroad industry alone were involved, the situation would be serious enough from the investor's standpoint. The problem, however, is national in scope because more than investors in railroad securities are involved. In addition to the primary problem of maintaining the backbone of transportation, there are several millions of persons who have a definite although indirect stake in the railroads to the tune of $4,000,000,000.

These investors are not individuals who speculated in railroad securities in the hope of making capital profits, but are the participants in trusteeships. They include holders of policies in life insurance companies with $3,000,000,000 invested in railroad securities, and depositors in savings banks which own $1,000,000,000 worth of them.

Such investments, of course, include the best railroad securities, but lacking a reconstruction program soon there will be no "best" securities. It must be remembered that of all the railroad paper outstanding, 25 per cent is against insolvent roads.

Philip A. Benson, president of the American Bankers Association, in a recent speech in New York City, asked for a "fair chance" for the railroads, and went on to say that $3,000,000,000 worth of railroad bonds already have been stricken from the list of securities acceptable for investment by savings banks and that $2,000,000,000 more probably would be in the near future. Mr. Benson is not a sensationalist. He is extremely conservative, a banker.

In the absence of miracles, and faced with taxes, wages and similar charges that will probably remain above pre-depression levels for some time to come, the roads appear to face three alternatives, all of them distasteful. These are:

1. Government ownership.
2. Continued operation with the assistance of government loans.
3. Going "through the wringer" by the bankruptcy route with huge direct and indirect loss to investors. If this procedure were drastic enough, most railroads could operate at a profit with current business and current revenues, although the profit would be a small one.

Government ownership is urged by a sizable but not a controlling group. For instance, William Green, president of the American Federation of Labor, looking to maintenance of wage scales estimated as being 5 to 7 per cent above pre-depression rates, has termed it "the only solution."

Federal operation would save the railroads considerable taxes and would cut costs by removing competitive regulations now strictly enforced by the I. C. C. But few people think these advantages outweigh obvious disadvantages. There is no guarantee that the government would maintain wages. The saving in taxes would be fictitious for the government would have to make up this revenue elsewhere, as would every county which now collects real estate taxes from the roads. Finally, politics would undoubtedly enter into railroad operations and, as a last argument against government operation, the experience of every country which has nationalized its roads shows that government operation is no more economical than private operation.

Private operation is favored by most conservative opinion, such as that voiced by Jesse Jones, who as chairman of the Reconstruction Finance Corporation, has carried responsibility for government loans to railroads.

However, he, with the rest, concedes that R. F. C. loans do not offer a permanent solution, for it does no organization any good to continue operations under a procedure that only plunges it further into debt. That is a temporary expediency to be used in the depths of an extraordinary depression but not as permanent policy.

Also, it should be noted that government loans are no help to the hardest-pressed railroads, because government is not in business to give money to the roads and what it loans must be backed by adequate security. If the money is not repaid, the security is forfeit. This means that on many of the government loans, if roads cannot recover lost business, their best assets are lost to

the bondholders and stockholders if and when the R. F. C. cancels the government loans by disposing of the pledged collateral.

Expediting bankruptcy or reorganization proceedings for railroads—the so-called "through-the-wringer" method—appears to be the only form of relief which will actually relieve many over-capitalized railroads.

The railroads insistently ask for greater freedom in the management of their affairs, while the government continues to show a trend toward more centralization of authority over all business. At the same time they are advocating broader powers for I. C. C., so that competition may be strictly regulated.

New metals, new types of engineering, wide electrification, development of streamlined and light trains, faster schedules—all these indicate the railroads are prepared to serve the country more efficiently than before.

Railroads will continue as long as competition exists, to improve their service and technique. And they will operate for generations to come. The question "how?" is unanswerable, but we can be sure an answer will be found. Among all the contending groups fighting for pet remedies none has yet suggested killing them.

The first step of "emergency relief" was taken with the authorization of R. F. C. loans. The second step, which may be taken before Congress adjourns, might well be termed the "temporary" relief period. Permanent reorganization will be a matter of years, but people are beginning to realize that time must be a relative factor in ironing out major economic problems.

PEACE ON THE RAILS

(Excerpts from an article by Garet Garrett in the Saturday Evening Post, volume 212, pages 8-9, 79-85, September 9, 1939. Reprinted by special permission of the Saturday Evening Post, copyright 1939, by the Curtis Publishing Co.)

It is an article of current opinion that between the railroads and labor there exists a model peace; and since there is nowhere else much peace to boast of, people are asking, "Why can't industrial relations generally be settled in that same design?"

Our sickest elephant is the railroad industry. It is physically and visibly shrinking at the rate of 2000 miles a year, besides what else is taking place inside for want of vitamin P.

Nearly one-third of the total railroad mileage of the country is in the hands of trustees and courts, under certificate of illness, to avoid the sheriff. The Congress holds hearings without end and passes the ever-longer law, the Interstate Commerce Commission is lost in the abyss of statistical knowledge, and this year the high schools are debating the plight of the railroads. Shall the government take them over?

The relation of all this to the peace is mural. What we want to know about the peace is whether it is a natural peace or a peace of appeasement, a free or a boughten peace, and how it works. It is a curious fact that we know very little about it.

The public takes it for granted as something that seems to be working, thinking about it at all only when it happens to be reminded that there has not been a serious railroad strike for a long time.

The government takes it with pride of authorship. Whatever else it may have done to the railroads during fifty years of regulation and control, it may say that it has brought this peace to pass.

How, then, do the railway labor unions take it? They take it extremely well, and this is so far the reason, first, that it perfects and implements their monopoly.

In the hands of a labor union or in the hands of a wicked capitalistic trust, there is one principal use of monopoly, and that is to control the price. With unemployment among railroad workers increasing at terrific rate—200,000 men laid off in one year—and with the decline of the railroad machine becoming a matter of public anxiety, even from the point of view of national defense, nevertheless, for the benefit of those who enjoy the monopoly and have rights of seniority in it, the price of railroad labor has been raised to its highest point. The advantage of monopoly is that you can buck a falling market in that manner, raising the price as the demand falls.

The fact is that the actual number of railway workers has been for a long time falling, owing partly to the shrinkage of the railroad plant and partly to the fact that by means of larger and faster trains, and higher operating efficiency generally, the railroads have been able to reduce the amount of labor required to move a ton of freight—or else by this time perhaps all of them would be bankrupt. Nevertheless, the total payroll has all the time been rising.

In the year 1916 the total number of railway employes was 1,600,000; in the year 1938 it was only 900,000. Yet in 1938 the total payroll was $294,000,000 more than in 1916. That is to say, comparing 1938 with 1916, 700,000 fewer workers received $294,000,000 more wages. The average wage per worker had more than doubled. Most of this increase in the average pay per worker was from the rise in wage rates; the rest of it, to a very large sum, represents a fattening of the payroll by imaginary work, or, that is, penalty wages charged for unperformed work as if it had taken place.

The content of the monthly pay envelope is not all. After the general wage increase of 1937, the Railway Clerk Magazine, in an editorial on the benefits realized by railway labor as a whole, made the following calculation: "The wage increase represents an annual increase in payroll of approximately $100,000,000. The pension tax to be paid by the railroads for the benefit of employes will amount to about $60,500,000. The unemployment insurance tax amounts to $44,000,000, and next year it will go up to $66,000,000. The restoration of the 10 per cent wage reduction—that was in 1935—amounted to $225,000,000. Therefore, since the low point of the depression in 1933, we have succeeded in getting from the railway and express companies a total of $452,000,000 a year, or an increase of approximately 25 per cent in payroll expenses."

The railroad statisticians make it somewhat less. Their figure representing the rise in the cost of labor since 1933 is $389,000,000.

One more figure. The gross earnings of the railroads in 1938, compared with the low point of the depression showed an increase of $424,000,000. By its own calculation, labor got a little more than all of it; by the calculation of the railroad statisticians, it got only 92 per cent of it.

You can see that it has been a very profitable peace, not for railway labor in the whole, but for the surviving number possessing a prior right to employment under the rules of seniority; and now these are moving for a six-hour day. By a calculation of the Interstate Commerce Commission, a six-hour day would increase the railroads' annual wage bill by $630,000,000.

THE GOVERNMENT AND THE RAILROADS

(Excerpts from "The Government and the Railroads", Editorial Research Reports for July 1, 1939, prepared by Buel W. Patch and Bryant Putney.)

The business recession that began in October, 1939, and continued for a full year thereafter gave the railroads, in 1938, their worst year from a fiscal standpoint since 1932. Financial results did not even come up to those of the poor year of 1933. Net railway operating income, representing the revenue remaining after payment of operating expenses, taxes, and certain rental items, exceeded in 1938 by only a small margin the depression low recorded in 1932. The carriers, moreover, had a net loss, after fixed charges, almost as great as in 1932 and considerably larger than in 1933 or 1934, which were the only other years in which they failed to earn fixed charges. While net railway operating income showed substantial improvements in the first quarter of 1939, compared with the first quarter of 1938, it was still insufficient to cover fixed charges.

Operating revenues were higher in 1937 than in any year since the bottom of the depression, although increased operating expenses and taxes cut net railway operating income and net income below the corresponding figures for 1936. Revenues for 1938, while sharply reduced, held above the 1935 level, but the spread between revenues and costs was so narrowed as to give final financial results little better than those in the lowest depression year. The scantiness of this margin between revenues and expenses indicates the severity of the crisis faced by the railroads.

In the banner year 1929 class 1 railroads, operating more than 90 per cent of the total railway mileage, had a combined net railway operating income of $1,251,698,000 and a combined income of $896,807,000. After 1929, traffic and earnings fell away so rapidly that when the bottom was reached in 1932, net railway operating income amounted to less than one-third of what it had been three years earlier and the large net income had been turned into substantial deficit.

The carriers had a net loss, after fixed charges, in each of the first seven months of 1938. Operations for February, 1938, resulted in the virtually unprecedented situation of a net railway operating deficit, operating revenues being insufficient to cover taxes. While the roads earned a small net income, after fixed charges, in each of the last five months of 1938, the cumulated total fell far short of wiping out the losses of the earlier months. There was again

a net loss in each of the first three months of 1939, but it was much smaller than in the same months of the previous year.

Railway taxes rose sharply from a depression low of $236,945,000 in 1935 to $340,780,000 in 1934. At the latter point, the railroads' tax bill was almost as great as in the prosperous year 1929, when it totaled $396,683,000. There has been little change in the burden of interest charges. Although the trend has been downward, total interest in the funded debt of class 1 roads dropped only from approximately $500,000,000 in 1929 to around $450,000,000 in 1938.

According to computations of the Bureau of Railway Economics of the Association of American Railroads, the rate of return, representing the ratio of net railway operating income to book investment in railway property, declined from 2.26 per cent in 1937 to 1.43 per cent in 1938. In 1929 the rate of return was 4.81 per cent. Dividends declared by class 1 roads on preferred and common stocks dropped from a total of $168,000,000 in 1937 to a total of only $83,000,000 in 1938, as against $507,000,000 in 1930.

During the year 1938 four class 1 carriers went into receivership or trusteeship, making a total of 39 class 1 companies in that status. These companies operate 32 per cent of the total class 1 railway mileage.

AFFIRMATIVE REFERENCES

THE CASE FOR FEDERAL OWNERSHIP OF RAILROADS

(An article by Harry W. Laidler in "American Railroads", the Thirteenth Annual Debate Handbook, 1939-1940, edited by Bower Aly, volume 1, pages 131-145.)

Today most of the nations of the world own in whole or in part their own railroads, while not far from one-half (about 44 per cent) of the world's railroad mileage is in the hands of various states. The United States, Great Britain, Ireland, Guatemala, Paraguay, and Salvador are the only countries in which the government possesses no substantial share in the ownership of the nation's transportation system.

In the United States, on the other hand, the railroads are practically entirely in the hands of private corporations. For a short space of time during the war and immediately thereafter, the federal government controlled, but did not own, the railroad system of the country. Because of the great amount of controversy concerning the success or failure of such control, let us here state in some detail the story of this venture of government in railroad administration.

For months prior to America's entrance into the war, demands made upon the American railroads for the transportation of war supplies were heavy, and the railroads found it increasingly difficult to meet these demands. As early as December, 1916, Commissioner McChord of the Interstate Commerce Commission, after investigation of the situation, declared that "in some territories, the railroads have furnished but a small part of the cars necessary for the transportation of staple articles of commerce, such as coal, grain, lumber, fruits, and vegetables."

Most of the railroad executives tried their best to solve the problem. "Competition and private control, however," as Secretary McAdoo stated, "were unequal to the task." The great movement overseas resulting from America's entrance into the war increased these difficulties. Finally, in December, 1917, the government was forced to take charge of the management of the roads. During the next year—a year marked by an unprecedented freight and passenger traffic, by terrific blizzards and by an alarming food shortage—the following results, according to Director of Railroads William G. McAdoo, were obtained:

"In 11 months, about six and a half million troops were transported in comparative freedom from accident over the American railroads, four million in special trains, at an average speed of 20 miles an hour.

"Three months after the government took over the roads, the railroads had transported to the Atlantic coast all the food for the allies equal to the carrying capacity of the available vessels, with over 6,000 carloads of foodstuffs to spare. They also carried over 37,000,000 more tons of bituminous coal during the 10 months ending October 31, 1918, than in the same 10 months of 1917, and greatly increased quantities of oil and staple commodities. In five of the seven districts into which the country was divided, according to the report, unified control led to a total saving of over eighty-five

million dollars. This was achieved through the elimination of non-essential passenger trains, the common use of freight trains, the unification of terminals, the elimination of circuitous routes, the pooling of repair shops, the consolidation of ticket offices, the reduction in organization staffs, the utilization of universal mile tickets, the standardization of equipment, the maintenance of common time tables, and other economies."

At the end of federal control, Director General Hines, who succeeded Mr. McAdoo, underlined some of the results mentioned by the first railroad administrator and added that public administration "provided more additions and betterments and equipment than private control could have provided during the difficult financial period of 1918 and 1919;" improved and stabilized working conditions; protected investment in railroad properties; and "turned the railroads back to private control functioning effectively, with a record of exceptional performance in an exceptionally difficult winter."

That the Federal Railroad Administration was successful in accomplishing the object for which it was organized—that of carrying food, clothing, munitions, troops, and other commodities and individuals necessary for the prosecution of the war to the Atlantic seaboard with the minimum delay—has been the consensus of most of the careful students of the subject. Charles W. Baker, consulting engineer, in his Carnegie Endowment study, maintained that the federal operation of the railways was, "on the *whole*, remarkably successful."

Judge R. S. Lovett, head of the Union Pacific Railroad and, during the war, Director of the Division of Capital Expenditure of the Railroad Administration, writing in 1919, after he had resigned his position and returned to the Union Pacific, said: "The prime object, and, indeed the only legitimate object of government control during the war, was to provide the transportation necessary for the war; and this object was accomplished *with very great success.*"

Professor I. L. Sharfman, another keen student of railway problems, declared: "Federal control accomplished very creditably the purposes for which it was instituted. In the face of unprecedented difficulties, essential traffic, whether purely military or industrial, was moved successfully and expeditiously, with a scrupulous and intelligent regard for national ends." The cost of traffic, Professor Sharfman continued, was "decidedly reasonable." There was no flagrant neglect of railroad plant and equipment, while, "for the first time, the interests of labor in the conduct of railroad transportation were accorded due recognition."

Some of the students of federal control divide the period of control into two parts, the first period of eleven months, during America's participation in the World War, and a second period of seven months, following the war, when the railroad administration was looking forward to the return of the operation of the roads to their owners.

Of the first period, Professor Frank H. Dixon declared that "everyone worked with loyalty and enthusiasm from the highest executive to the humblest employe."

During the second period, the administration, as Professor Dixon main-

tained, was engaged in the difficult task of holding the properties together until the official dissolution. It was impossible for the administration to make any long-range plans. Congress failed to pass necessary appropriations and the steel and coal strikes in the fall of 1919 led to a great diminution of the freight carried by the railroads, and, consequently, to a very great shrinkage of income. The situation during this post-war period was, indeed, such that "it is doubtful without federal control whether any but the most substantial railroads could have weathered the storm." Private operations under the conditions, concluded Professor Dixon, "would have been an impossibility."

But, opponents of federal control reply, there was a deficit during such control; such a deficit was indicative of the Federal Administrator's inefficiency. However, according to Dr. Sharfman, the adverse judgment of the financial showing found "no justification in any impartial analysis of the essential facts."

The deficit was due to a number of forces which in no way involved inefficiency in governmental control.

These forces include the following:

1. The Federal Railroad Administration had to turn over to the railroad owners a guarantee rental equal to the average railway operating income for the three years ending June 30, 1917. These three years had been far more prosperous, on account of the business received from the warring countries, than was the ordinary year, and the burden placed on the Federal Administration to pay this rental was a huge one.

2. During the war, the railroads, as well as other industries, were unable to haggle over expenses. The Railroad Administration considered it its duty to move the traffic expeditiously, whatever the expense. "The policy of not counting the cost," as Professor Eliot Jones brings out, "was followed by all the other war organizations, for example, those responsible for the building of steamships, only the losses sustained here amounted to billions. The truth is (as Professor Jones clearly brought out) that in time of war cost considerations are properly regarded as relatively unimportant; the true test of success is whether the organization delivers the goods." And that the Railroad Administration delivered the goods more satisfactorily than would have been possible under private control was, in the opinion of this authority, "quite clear."

3. At the beginning, the administration had to operate, as a result of the dislocation due to the war and the many shifts inevitable under federal control, with less experienced employes, particularly in the mechanical departments.

4. Most of the wage increases in 1918 were made retroactive to January 1, whereas the rate increases were effective for only half of the year. Had the scale of rates effective during the last half of the year been in force throughout the twelve months' period, "there would have been no deficits, according to Professor Jones, "but, on the contrary, a considerable surplus."

5. Almost all materials purchased by the administration during the war period were unusually costly on account of the war. Walker D. Hines main-

tained that the unit cost of the United States Steel Corporation was approximately 62 per cent higher in 1918 and 83 per cent higher in 1919 than in 1914, while the railroad cost per freight ton mile increased only 41 per cent in 1918 over 1914-15, and only 70 per cent in 1919, as compared with 1914-15. The increase in operating cost under federal control, Director General Hines asserted, was "not out of line with the increases in cost in private industry during the war period."

6. In the latter part of the period of federal control, the coal and steel strikes, as has been brought out, led to a great decrease in traffic and, therefore, of income.

7. During the entire period of control, it was recognized that the control would be transitory in its nature. This made it difficult to make certain economies which could have been made in a long range program, while, especially in the last few months of control, prior to dissolution, a decrease in morale in the working force was, to some extent, inevitable.

8. The administration refused in the latter part of its control, in 1919, again to raise rates, despite the increased cost of labor, materials, etc. This decision was made in the belief that an increase in railroad rates at that time would have led to very large advances in the prices of other commodities, to the great detriment of the consuming public. Following the return of the railroads to private operation, the Interstate Commerce Commission advanced freight rates by percentages varying in different parts of the country from 25 to 40 per cent and advanced passenger rates by 20 per cent. "If such an enormous increase was necessary in the summer of 1920 to enable the railroads, while in private hands, to realize adequate earnings (equal, for example, to the standard return)," asks Professor Jones, "does it not seem reasonable to hold that the primary cause of the deficit sustained during 1919 was the lower level of railway rates?"

Despite the many evidences of successful federal operation during the war, highly paid propagandists of private interests, following the return of the railroads to private hands, began a series of bitter attacks against federal control, and, in many cases, railroad officials who had served in the Federal Railroad Administration, and who, while there, had spoken enthusiastically concerning the results attained, joined in the chorus, reversing their former positions.

Immediately after the war, the Railroad Brotherhoods began a vigorous agitation for the so-called Plumb Plan for the nationalization of railroads, a plan which proposed that the federal government own, and act as trustee for, the entire railroad system, while the management of the railroads be placed in the hands of a board of directors of fifteen members, five to be appointed by the President of the United States to represent the public; five to be appointed by the railroad employes to represent labor; and five to be elected by the railroad officials to represent management.

In the late twenties, Joseph B. Eastman, Interstate Commerce Commissioner, and later railroad coordinator, spoke repeatedly of what he conceived

to be the advantages of public ownership over private ownership, with regulation. He declared:

"The substantial advantages of public ownership, as I see them are low cost of capital; opportunity gradually to reduce or eliminate the capital charge without hardships on the public in the process; and, above everything else, freedom from the valuation nightmare. If we should adopt the principle that every government function shall be performed directly by the state and shall not be farmed out to private enterprise, it is my sincere belief that the ultimate result would be an increased respect for the government and improvement in the character of our public service. . . . I believe it would be a far healthier situation that this country should struggle toward an ideal than that it should surrender to the baser principle that the public good can only be attained to that extent that it happens to coincide with the ends of private profit."

In 1934, Commissioner Eastman, while not advocating the immediate public ownership of the railroad system, contended that public regulation was "necessarily an interference with management" and involved "divided responsibility" and that public ownership and operation would clearly go further than any other change to abate railroad ills. "Public credit," he declared, "would, under public ownership, take the place of crippled private credit. Management and operation of the industry would be wholly united. Public regulation would largely merge with management and operation. Financial domination would cease."

Should the railroads become public property, continued Mr. Eastman, they should be managed by a federal corporation, rather than by a department of government. The property should be acquired from its present owners through the issuance of the bonds of the corporation guaranteed by the government. The United States Railways should be managed by a board of five or possibly seven public trustees appointed by the President with the advice and consent of the senate. The trustees should be removable only for cause. For administrative purposes, the publicly owned system should be divided into regional groups. A council of 24 unpaid members should be appointed to advise with the railroad administration, consisting of representatives of business, agriculture, labor, and other interests. The railroad administration should, so far as was practicable, be self-supporting and should lay aside a sinking fund for paying off its bonded indebtedness. Surpluses should be used for that purpose and for new property. The payment of deficits by the government should be a charge in the future earnings of the railroad corporation. The federal corporation should be empowered to acquire agencies of transportation other than railroads.

On April 15, 1935, Senator Burton K. Wheeler introduced a bill into the U. S. senate providing for the creation of the United States Railways along the lines laid down by Commissioner Eastman.

Two months later, on June 20, 1935, the Railway Labor Executives' Association adopted a resolution favoring "the immediate taking over of the railways of the United States by the federal government to manage the railways." It declared that the railroads were under the "complete domination

of the banking and financial interests of the country." Railroad financiers, the association maintained, had pursued a policy "of taking for themselves as large a proportion of railway revenue as possible while they loaded the industry down with a heavy and unjustifiable burden of debt." Improved methods were neglected. Hundreds of thousands of railway workers were thrown out of employment. "Railway facilities have been allowed to deteriorate to the point where the efficiency of railway service has been seriously impaired and where its safety has been greatly reduced." The resolution continued:

"Government regulation by its very character is unfitted for positive and constructive measures. . . . Public ownership and operation of the railways under the federal government will permit the integration of the railways in the manner most conducive to safe, efficient, and economical operation. Federal financing under federal ownership will cost much less and can be much more wisely directed than either private or public financing under private ownership and operation. The necessary coordination of railways with other types of transportation can be done in a manner to safeguard public interests only if there is complete government control of the railways. The immediate rehabilitation of railway facilities, which is absolutely essential to the safe and efficient operation of the railways is not possible excepting through federal financing, and it will be very difficult unless, with federal financing, there is also federal ownership and operation."

On April 4, 1937, two years after this pronouncement of the Railroad Labor Executives, President William Green, of the American Federation of Labor, addressing the convention of the railway employes' department at Chicago, said: "It seems to me that the railroads are headed for government ownership. I do not see where we can find any other remedy. The only way the railroads can be saved, the interest of the workers maintained, and service be kept for the good of the country is through government ownership."

Four days after President Green's address, Senator Ernst Lundeen of Minnesota, introduced a bill for government ownership similar to that introduced in 1935 by Senator Wheeler. Today, with the railroads facing increasing financial difficulties, the movement for public ownership is steadily increasing in strength.

ADVANTAGES OF GOVERNMENT OWNERSHIP

The advantages of government ownership of the right type are many:

1. Public ownership would eliminate the wastes of scattered private control and would mean a greatly reduced overhead. Under the present competitive system, several trains only partly filled leave the same city on the same hour every day for the same destination, leading to the useless expenditure of tens of thousands of dollars daily. Freight is routed in a fantastic fashion. A striking example of waste some years ago was that of a tank car of linseed oil, which was directed from Undercliff to Bayonne, New Jersey, a distance of 15.5 miles and which, kept within the clutches of one railroad, actually traveled 179.5 miles, and took four days in transit between these two points. There are over 40 regularly used through-merchandise car routes, or runs, between New York and Chicago, while "the number of routes from

which the shipper must choose and for which traffic is vigorously solicited by representatives of the many carriers literally runs into thousands."

This railroad competition means a great deal of less-than-carload traffic, with the frequent interchange of commodities from one railroad car to another. "Owing to the large number of carriers," declares Commissioner Eastman, "it is necessary to duplicate administrative sales, and accounting effort. In a transcontinental movement, at least two and as many as eight or ten carriers will each expend as much effort as they would expend if the car were handled locally. In other words, each of the participating carriers duplicates the work of each of the others."

Large wastes result from the establishment of competitive railroad terminals. The wastes of maintaining competing railroads passing through the same general territory are enormous. In former days some of these duplicating roads could be justified on the ground that they reached different smaller cities and villages between the larger centers of population. In these days of buses and motor trucks, the need for the maintenance of these expensive duplicating systems, however, in numerous cases cannot be justified. And yet, under private ownership, it has proved exceedingly difficult to eliminate duplications.

Unified control under public ownership would mean immense savings in the joint use and modernization of shops, in the standardization of equipment and supplies, in the establishment of central research and purchasing departments, in unified accounting systems, in the elimination of huge legal expenses connected with fights against rate reductions and controversies between the railroads, in the reduction of the cost of soliciting business, in the publishing of time tables, in advertising for customers, in maintaining offices, and in expenses for duplicating administrative staffs, etc. In a recent year, the I. C. C. criticized the large railroads for spending more than $84,000,000 in four depression years for advertising, legal fees and outside accounting jobs.

Public ownership would save the public considerable sums through the reduction of unnecessarily high salaries of numerous presidents, vice-presidents, and executive officers. Through the intercession of the I. C. C., salaries of railroad presidents have been considerably reduced, and yet most of them still range between $30,000 and $100,000.

2. Public ownership would stabilize the financial structure and prevent further collapse. It would rescue the industry from speculative financial control. From the time of the widespread scandals at the very inception of railroading, through the looting of the New Haven Railroad, to the recent loss by the Pennsylvania Railroad of some $65,000,000 in its purchase of Wabash stocks and the Van Sweringen and other ventures, unscrupulous and irresponsible financial speculation has been typical of private ownership in America.

A brief sent recently by President Roosevelt to the chairman of the Committee on Interstate and Foreign Commerce, dealing with these speculations, maintained: "The railroad facilities of this country for the most part are a product of haphazard and hasty construction for exploiting and profit and with

little regard for the public welfare or economic justification. . . . . "Recently published figures showed that losses of $223,966,000 had been sustained by five systems alone in the purchase of 'securities of other roads in anticipation of rises.' "

The financial situation of the railroads under private ownership has grown steadily worse. In the beginning of 1939, thirty-nine class 1 companies operating 32 per cent of the total class 1 railway mileage were either in receivership or trusteeship. On May 23, 1939, Senator Reed, member of the Committee on Interstate Commerce, declared, during a debate on railroad legislation in the senate:

"Today, the situation is such that one-third of the railroad lines is in the hands of receivers, or trustees, and a third of the total railroad mileage of the country totters upon the brink of bankruptcy, and only one-third of the railroad mileage may be reasonably expected to survive bankruptcy if conditions should continue as they are perhaps for three or five years."

Under private ownership, the railroads have no solution to offer. They urge higher rates, lower wages, government subsidies, etc., but no real way out of the present impasse.

3. Public ownership of the right sort would mean better working conditions for the employes. Despite the reputation maintained by the railroads for higher wages, and despite the comparatively high working standards of some groups of railroad employes, labor maintains that, in 1937, the average wage of all railroad workers was only $1,115, less than $95 a month. "Fifty per cent of all the workers in the railroad industry," declares the Machinists' Monthly Journal (October,1938), "earned less than $1,500 during the year, and 65 per cent of all workers earned less than $1,500, or $125 a month, only 35 per cent of all railroad employes earned as much as $1,500 or more during the calendar year. Some railroad employes are actually receiving as low as 16 cents an hour for their labor on some railroad property. Thousands and hundreds of thousands of railroad employes who have had from ten to thirty years service in the railroad industry, are now working only a few hours per day, and a few days per month, during several months of the year." In 1937, only 52.7 per cent of all railroad employes worked some part of each of the twelve months of the year. One-third of all railroad employes worked only during six months of the year or less.

An enlightened government would see to it that the railroad employes possessed greater security and adequate yearly compensation. Under federal control, the labor policy was far better than it had been under private operation in most of our railroads.

4. Public ownership would mean reduced capital charges. Interest rates on federal bonds are less than those on railroad corporations. No attempt is made under public ownership to pay dividends on watered stock.

Moreover while, under private ownership, the debt structure is kept intact, the general practice under federal ownership is steadily to reduce the bonded indebtedness. In 1920, the funded debt of the railroads was $10,200,000,000, with interest charges of about $500,000,000 annually. From 1920

through 1931, the railroads as a whole enjoyed high profits. The average net income per annum was about $550,000,000 after deducting interest on bonds and all other charges for these 12 years. For the entire period the railroads made $6,745,000,000. "But they did not use a penny of this profit to reduce their funded debt. They paid about $450,000,000 a year in dividends; added about $100,000,000 a year to surplus and had nothing left with which to pay off their bonds."

They increased their debt rather than lowered it, and at the end of 1931, their funded indebtedness stood at $11,800,000,000, while their interest charges had risen to $600,000,000 a year.

They were not building new railroads, during this 12 year period, with their borrowings, but they spent hundreds of millions of dollars in buying up one another's stocks, and engaging in futile "consolidation schemes" that collapsed during the depression. "The present receivership of the New Haven resulted largely from expenditures made in acquiring control of the Rutland (in receivership), the New York, Ontario and Western (in bankruptcy), and the New York, Westchester and Boston (out of business altogether)."

5. Public ownership of the railroads would constitute the first step toward the scientific coordination of the entire transportation industry. The dilemma faced by the railroads is due to a number of causes: the wasteful operation of the competing and uncoordinated railway system; the financial manipulations of the railroads in the past, and the tremendous burden of debt maintained by our railroad system (for class 1 railroads, unmatured funded debt is about 56 per cent of stocks and debt); the economic depression and the competition between the railroads and the other forms of travel—motor vehicles, airplanes, water-shipments, pipelines, etc. Even if or when the economic depression passes, the competition of other forms of transportation will remain. Unless some method of coordination is worked out between railroads and other forms of transportation, no solution to the railroad problem can be found. The privately owned railroad system has found it impossible to coordinate the railroads, to say nothing of coordinating the various branches of transportation. Only under public ownership could the transportation system be dealt with as a unified whole. Only under public ownership could buses and trucks and water transportation be used in proper conjunction with the railroad system; could due consideration be given to the non-commercial vehicles, and could traffic be allocated to those types of transportation which were socially most advantageous.

6. Public ownership could likewise be utilized far more than can private operation as a means of giving employment in times of economic stress. In the Scandinavian countries, under public ownership, it has proved far easier during a depression to arrange to put the unemployed to work in improving railroad equipment and service than it would have proved if these railroads, as in America, were in private hands.

7. Public ownership of the right sort would constitute a step toward democracy by transferring an industry vital to the life of our people from the hands of an aggregation of private corporations autocratically controlled to the hands of the people, through their government. At present a few great

holding companies control a large proportion of the railroad mileage of the country, while two powerful financial houses, J. P. Morgan and Kuhn, Loeb and Company, "share between them control of virtually all the financial business of our railroads."

POLITICS AND PUBLIC OWNERSHIP

It is sometimes said that public ownership of railroads would place the railroads in politics. But the railroads have been in politics since their very inception.

There is no more dismal side to the present railroad situation than the activities carried on to influence public opinion and to corrupt political bodies. Year in and year out the story has been much the same. Methods have changed, the older and cruder forms of bribing have given place to a more subtle system to meet changed conditions, but the old effectiveness in accomplishing illegal purposes has been retained.

Today the railroad interests have highly paid lobbyists in Washington to help Congressmen to legislate for the railroads. They spend millions of dollars of stockholders' money to "educate" the public opinion. They divert large sums to political organizations. They continually subsidize reporters so as to be sure of friendly publicity. They have even in some cases invested heavily in newspapers to mould public opinion. They have regularly employed political bosses in order to retain their allegiance. To try to eliminate such practices by passing prohibitory laws has proved as futile as attempting to hold water in a sieve. There is no way of solving the problem so long as it is to the interest of railroad operators to continue the systematic corruption of politics and public opinion. And that will be the case as long as the railroads remain in private hands.

For any public agency to prevent undesirable railroad practices, it must of necessity enter into the day to day conduct of railroad management. This is now an impossibility, even if the public were willing to bear the expense of such an intricate regulatory policy. The only commonsense way of creating honest management is to remove the cause of dishonesty. The cause is deeply rooted in the circumstance of private ownership. Those who own the railroads do not control them, and those who control are not concerned with the public welfare except when profits and public welfare coincide. The corruption of government and the domination of a great part of the public press will continue until the railroads are under the control of the people, and management is hired to serve public ends.

Samuel Untermyer, the prominent New York attorney, summed up the situation when he said, "There are no government administrations that begin to be so honeycombed with fraud as have been many of our private corporations—especially railroad corporations—in the past, though the latter were more successful in concealing both their frauds and their inefficiency than our government institutions."

A government system of railroads should, as Mr. Eastman declared, develop a structure of control which would reduce political influence of the invidious sort to a minimum. This would be achieved, Mr. Eastman believes,

through the setting up of a non-political federal corporation. The personnel of the railroads should, for the most part, be made subject to civil service or scientific personnel management regulations and there should be checks upon railroad rates, construction and other policies by the Interstate Commerce Commission. "In the final analysis," declared Mr. Eastman, "the greatest safeguard against political abuse would be the character of the original trustees." Director General Hines maintained that the Federal Railway Administration during the war had been able to operate in the selection of personnel, entirely free from political influences, direct or indirect. "It presented," he declared, "the rare case throughout of the office seeking the man."

PUBLIC OWNERSHIP AN IMMEDIATE ISSUE

Some critics of public ownership declare that, while government ownership is inevitable, now is not the time. But as Professor Winthrop M. Daniels, of Yale University, declared in 1934, there is a distinct advantage in having the government purchase the railroads during a depression, because at such a time they can be purchased more cheaply than during prosperous eras. To the argument that the government shouldn't purchase them now because it is already overburdened with debt, it should be said that, if the government did not pay an unreasonable price for the railroads—and there is no reason why it should—the interest on the bonds and the bonds could be amortized from revenue. The taxpayers would not be asked to carry any additional burden. On the other hand, the government would greatly increase its self-liquidating assets, and be richer, not poorer, as a result of the transfer.

In view of the marked advantages of public ownership, and the great desirability of beginning a fundamental reorganization of the railroad system at the earliest moment, and before the country has sunk more money in the privately-owned railroad system through loans and subsidies, the United States should proceed to the public ownership and operation of the nation's railroads.

PUBLIC OWNERSHIP AND OPERATION OF RAILROADS IN THE UNITED STATES

(Excerpts from an article by Joseph B. Eastman in the Annals of the American Academy of Political and Social Science, volume 187, pages 106-119, September, 1936.)

Public ownership and operation of railroads is not inconsistent with our American theory of government. The early charters often contemplated the possibility of such a policy. It has always been recognized, notably by the Supreme Court, that a railroad is a public industry, and that it performs a function of the state. The question, therefore, is one not of fundamental theory but of practical expediency.

The greater part of the railroad mileage of the world is publicly owned and operated. The American and the British railroads are the outstanding instances of private ownership and operation, but even this country owns and operates railroads in Alaska and the Isthmus of Panama, and one was operat-

ed in the Philippines formerly by the territorial government and now by the new Philippine government. The staff of the federal coordinator of transportation canvassed the available literature on the railroads of other countries. There is a great variety of opinion as to public ownership and operation. It has had its evils but also its benefits. There is no prevailing tendency to abandon it, although there is a marked tendency to change the form, as will be noted later. It is clear that other countries have adopted public ownership and operation, not as a matter of principle, but for reasons of expediency. Often they have been forced into it because private enterprise would not build, or could no longer carry on. Sometimes military considerations have been paramount, or an unwillingness to rely on foreign capital, or a desire to use the railways for the general business and industry of the country in its competition with other countries.

Because of this variety of underlying motives, it is idle to measure the results by the test of earnings. Nor is a demonstration of various evil results convincing. It is easy to assemble a most impressive array of evils—financial, political, and economic—from the history of American railroads. The immediate question in connection with both public and private ownership and operation is whether demonstrated evils can be corrected. The ultimate question is which system, when fully safeguarded, will produce better results.

It may be well, however, to consider briefly two familiar instances which are often used as arguments against public ownership and operation. One is federal control of our railroads during the World War, and the other is the operation of the Canadian National system. In the case of federal control, the refutation will be found in the dispassionate *War History of the American Railroads*, written by the late Walker D. Hines, a man with intimate knowledge of the subject and of high standing in the private railroad world both prior to and after federal control. Believing in private ownership and operation, he yet states these conclusions:

"Opponents of government ownership and operation of railroads have frequently seemed prone to exaggerate criticisms of federal control by way of argument against permanent government ownership and operation. Advocates of government ownership and operation have probably been equally prone to exaggerate commendable things which were done by federal control by way of argument for their positions. Both sides have been in error.

"In the interest of clear thinking, it is important to realize that federal control does not constitute a sound argument either for or against permanent peace-time government ownership and operation. What federal control does primarily is to illustrate in a particularly concrete and visible way the disrupting and destructive influences of war, strictly similar in effect to what would have been exemplified by private war-time control, though different in various details."

Mr. Hines stated further, in concluding his comments on war-time control of railroads by the government of the United States:

"The effect of federal control was to provide, as to the country's war needs, and as to the interest of railroad security holders, a protection which had

become impracticable on the part of private control in view of the emergencies and limitations with which it was confronted. Any fairly balanced study of the situation as a whole must lead to the conclusion that in periods of extraordinary difficulty the government's temporary operation of the railroads accomplished with credit the objects which made resort to it imperative. The war needs for transportation were met and railroad security holders were protected from a large part, though by no means all, of the injurious consequences of the war."

Ownership and operation of the railroad lines now forming the Canadian National system were forced upon Canada, beginning in 1917, by the inability of private capital longer to maintain them. Much of this mileage had been recklessly and extravagantly constructed in advance of the country's needs. It is conceded that these lines have been operated more efficiently and have given better service since than before public acquisition. The recommendations of the royal commission of 1917 for divorcement from political control, however, were not followed, and a liberal government assumed responsibility for operation until 1930, when a conservative government came into power. The latter appointed a royal commission in 1931 to inquire into railways and transportation in Canada, and the situation was, therefore, presented of a commission appointed by one party inquiring into an undertaking which had been administered by the other.

In considering the service and the operating efficiency of the system, the report was not wholy adverse. It is stated, for example, that the "railway has been energetically administered, and has deservedly won approval by its success in welding together the various working forces of the separate companies in the consolidated system"; and that it is an "efficient transport system affording a service of high standard and with a loyal and enthusiastic staff of officers and employes." Referring to the heavy expenditures for the improvement of the property, the large additions to rolling stock, the advantages of increased tractive power, and the generous expenditure upon upkeep, the report states that these changes "should have made possible a great improvement in operating performance", but "whether the improvement actually secured has been commensurate with the expenditure involved is a moot question."

The strictures upon operating efficiency, such as there are, are mild. Emphatic condemnation is reserved for the expenditures upon branchline extensions and acquisitions, the construction of new hotels, and the establishment of new railway and steamship services duplicating those of the Canadian Pacific. It is now realized that these expenditures were, to a considerable extent, prodigal and wasteful; but this was characteristic of the times in which they were made. Much the same thing happened in this country. Consider, for example, the construction of extensions and branch lines in Florida, California, and the Texas Panhandle, brought under some measure of control, but not sufficiently in all instances, by the commission. Consider the expenditures on the Cleveland, the Cincinnati, and the Philadelphia passenger stations, and on various produce terminals and warehouses, and the tremendous expenditures on the west side of New York City. Consider the wasteful and prodigal con-

struction of new hotels in New York City (partly by railroad capital) and elsewhere. There are merely illustrations of a general tendency.

A significant thing, however, about the report is that it does not recommend that the Canadian National system be returned to private ownership and operation. On the contrary, its recommendations are for changes in the plan and methods of administering the system which will eliminate or reduce the evils found to exist.

So much by way of preliminary discussion. Public ownership and operation would clearly go further than any other change to abate the railroad ills described above. Public credit would take the place of crippled private credit. Management and operation of the industry would be wholly united. Public regulation would largely merge with management and operation. Financial domination would cease. The important questions are whether other ills would take the place of those abated, and how serious they would be; whether public opinion is ready for so radical a change; and how difficult and perilous the taking over of the properties would now be.

The danger most emphasized by the critics of public ownership and operation is political interference in management. It may take several forms, the most important being:

1. Extension of political patronage (the "spoils system") into the service;

2. Interference with rate adjustment, particularly to help certain groups or localities;

3. Interference with construction programs, particularly to promote large expenditures for the benefit of certain localities, or as a means of social relief; and

4. Interference with labor relations, including wages and working conditions.

That these are real dangers has been shown by experience in other countries. The question is whether they can be averted. The first of those listed is probably to be feared the least. It is clear that the railroads cannot be efficiently operated if they are to become tools of political parties. If the issue is made clear, the country will register that opinion emphatically. The workers themselves can be a most important and effective safeguard, if they are allowed to organize freely, for it is far from their wish to be in jeopardy from political changes in government.

Other effective safeguards are practical. The tendency in countries which have public ownership and operation is now definitely to separate the railroads from ordinary governmental activities and make them autonomous, nonpolitical enterprises. The best way to do this is to vest their ownership in a corporation of which the government is the stockholder, to be administered as an independent business enterprise. Control should be by a board of trustees with definite tenure of office and removable only for cause. The act creating the corporation should make it a positive duty of the trustees to operate the property on a self-sustaining basis so far as possible, and without

regard to political considerations. It should be made a penal offense for the trustees or any of their subordinates to appoint, remove, or retain officers or employes at the solicitation of any officer of the government or political party organization, and for any such officer to solicit such action or interfere in any way with the disciplining of employes. In addition, there should be an advisory council, made up of members selected by representative business and other groups in the community, authorized to consult with the trustees upon policies of management, and free to procure all desired information in regard to the conduct of the corporation.

If further protection against political interference is desired, it is possible to have the trustees appointed by a nonpolitical committee. This is illustrated by the London Passenger Transportation Board, created as a public corporation by act of Parliament, which on July 1, 1933, took over all the passenger-transportation undertakings in London and its environs. This board consists of a chairman and six other members, who are appointed by a body of appointing trustees constituted as follows: The chairman of the London county council, a representative of the London and home counties, a traffic advisory committee, the chairman of the committee of London clearing banks, the president of the law society, and the president of the institute of chartered accountants.

Another plan, suggested by a South African writer, would be to name the original trustees in the act, and provide for the appointment of their successors from lists furnished the appointing power by the remaining trustees. Other similar plans could easily be devised, but there is little reason to believe that any would be necessary.

It is significant that in Canada, where the public railroads are owned by a corporation of which the government is the stockholder, the royal commission of 1931 made no finding which would indicate extension of political patronage into the service, although no particular safeguard has apparently been employed. They made this comment:

"Of direct political interference by ministers and members of Parliament in the detail operations of the railway, we were assured by the officials that there was little or none. It was in the larger sphere of policy that political considerations led to unwise and unnecessary capital expenditures, the result of which was to create an atmosphere in which the ordinary principles of commercial operation of the railway were lost sight of."

In his *War History of American Railroads,* previously cited, Hines reports: "In the selection of personnel, federal control was entirely free from political influences, direct or indirect." In Boston and its environs, where the Boston Elevated Railway company has been managed for fifteen years by a board of public trustees appointed by the Governor of Massachusetts, there has been no intimation that political patronage has encroached upon the service.

If it were thought wise, the personnel of the public railroads could be made subject to the civil service regulations.

The last of the dangers listed, i.e., interference with labor relations, is real, but the present situation would probably not be changed materially. At the last session of Congress it was evident that the employes of the privately owned railroads had more influence than the employes of the government. The railroad employes are not advocates of public ownership and operation. They may be influenced by the thought that their ultimate weapon, the strike, might be of less avail against the government, and that there might be the same restrictions upon political activities as are now imposed upon civil service employes.

The second and third of the listed dangers are those of major importance. Every member of Congress is naturally anxious to secure benefits for his district, and he may overlook the good of the entire country in the pursuit of this purpose. While it might be thought that his fellow members would guard against such a result, this protection may be nullified by "logrolling" which is in effect a combination on the part of those who have local ends in view.

Safeguards against these dangers are possible. In South Africa the public railroads are in charge of a minister of railways and harbors, responsible to Parliament, but he must advise with a railways and harbor board appointed by the governor-general. It is provided that if construction work is ordered contrary to the advice of this board, or if the railways are required to provide any services or facilities either gratuitously or at a rate of charge below cost, the loss each year shall be paid out of the consolidated revenue fund to the railways and harbor fund, i.e., it shall be charged to the general expenses of government and not to the expense of operating the railroads. In this way the subsidy is made clear. According to some writers, however, this provision has not operated satisfactorily, because of political subserviency in the railways and harbor board.

So far as new construction is concerned, an effective safeguard could be provided in this country by continuing the jurisdiction of the Interstate Commerce Commission, i.e., by requiring a certificate of convenience and necessity from that commission, which has well-established traditions as an independent and nonpolitical establishment. It could further be provided that if Congress should by special act exercise its power to require new construction, regardless of commission action or advice, the yearly loss as estimated by the commission should be borne by the general funds of the government. Congress could, of course, change any such general provisions, but if they were made a part of the original statute incorporating the national railway company, there would be difficulty in making such a change. The veto power of the President is a safeguard here which does not exist in countries having the parliamentary system.

So far as rates are concerned, a similar safeguard could be provided by continuing the jurisdiction of the commission, at least over individual rates or groups of rates. Under the present system, Congress has the power, if it wishes to exercise it, to legislate directly on rates instead of delegating regulation to the commission. But there has been strong opposition, both within and without Congress, to such direct legislation, owing to

keen realization of its ultimate impracticability and the turmoil and confusion to which it would give rise. Here again the veto power of the President is a safeguard.

In the last analysis, the greatest safeguard against political abuse would be the character of the original trustees. By strong resistance to such abuse and keeping employes, shippers, and the general public informed in regard to their policies and the reasons for them, the trustees could go far to establish traditions which it would be difficult for weaker men to undermine, even if they later came into power. The force of such traditions in human affairs is very great. The advisory council, above suggested, could give effective support. Fortunately, in the inauguration of any new public undertaking, men of strong character are likely to be the initial choice, for the selection of such men is necessary to satisfy public opinion. The greatest danger comes later, in the filling of vacancies, when interest is not awakened or concentrated.

Question arises whether the railroads of the country could be effectively and efficiently managed as a single unit. This is a most serious question. The railroad industry presents very difficult problems of administration. It is not concentrated in one place or in a few places, like a manufacturing industry, but spreads over a great expanse of territory, and the employes are on the move or located at a vast number of places. It is difficult for the general administrative or supervisory force to keep in touch with the employes and still more difficult to keep in touch with the patrons, and these difficulties multiply in geometrical ratio as the size of the system increases. Moreover, intimate contact with employes and patrons is of the very essence, as shown by the rather notable success which some small railroads have had.

Whether or not the railroads could be administered effectively as one gigantic unit is a problem in organization. The largest railroad system in the country at present from the standpoint of traffic handled is the Pennsylvania, and the largest from the standpoint of territory covered is the Southern Pacific. Both have had administrative difficulties. The Pennsylvania now seems to have made progress toward solving them, and the Southern Pacific is working on the same problem. Railroad organization for administrative purposes is a matter to which more attention might well be given. It has largely followed traditional lines, which had their origin when operations were simpler. Some of the new consolidated systems in Great Britain have for some time been giving this matter close attention. It is probable that the solution will be found in a staff and line form of organization, under which general policies and planning will be laid down by the staff and the execution will be left to local officers with a large measure of autonomy and jurisdiction over comparatively small units or areas.

It is quite too much to say that the answer to this question has yet been found. If public ownership and operation were established over night, there would probably be a comparatively long period of trial and adjustment before the best form of organization could be devised and made effective. A machine working smoothly at the outset could not reasonably be expected.

This was one of the difficulties with federal control during the war period, although then the problem was made easier by the prevailing war psychology, which made patrons less contentious and difficult to deal with than might otherwise have been the case. It cannot as yet be said with certainty that the answer would ultimately be found.

Experience with the government service in this country, leaving political patronage out of consideration, does not indicate that the government would be unduly liberal in the matter of labor relations. It has been a good employer with respect to hours of labor and vacation periods, but the necessity for this is now recognized generally. On wages the government has, on the whole, been liberal, but has never gone to extremes. On salaries it has been less generous, particularly in the higher brackets, than private employers. The civil service regulations and Congressional pressure may make it somewhat difficult to dismiss or demote employes for inefficiency, but it would not be necessary to import those regulations into railroad operations.

All the economies in operation which could be obtained through consolidation or coordination of privately owned companies would be possible under public ownership and operation. In fact, the possibilities are greater.

The maintenance of adequate means of communication and transportation through a system of highways has always been recognized as of such supreme importance that it is naturally and inevitably one of the immediate responsibilities of government. Conservatives, liberals, socialists, and communists are all in accord on that point. The railways have always been regarded as public highways. At the outset it was, indeed, thought that they would be highways on which every man who could procure the proper carriages and apparatus would have the right to travel. Later it was found that any common use of this character would be impracticable, but the railroads did not thereby lose their status as public highways.

It is now generally recognized in this country that the highways used by ordinary vehicles should be owned by the government, and all but a very few are so owned. The same principle is followed all over the world. It has also been recognized, here and throughout the world, that there is nothing in political theory which stands in the way of government ownership and operation of railroads. The decision, for or against such ownership and operation, has been determined by considerations of practical expediency. For example, England has always found it expedient to permit her railroads to be privately owned and operated, but her colonies have all, to a greater or less extent, found public ownership and operation necessary. Communist Russia may be one exception where political theory has played a part, but the railroads of czarist Russia were also publicly-owned.

It is therefore unnecessary, in considering possible public ownership and operation of our railroads, to debate any question of political theory or the merits of socialism and capitalism. It is universally conceded that this particular industry performs a public function and that the ultimate responsibility for proper performance rests with the government. The only question of importance is the practical one of the way to get the best results.

Before dealing with the merits of an immediate program of public ownership and operation, let us consider how, in the event of such a program, the properties could be taken over, paid for, and thereafter managed. There are several possible ways, but the following seems to the coordinator to have most merit.

The first step would be the taking over by act of Congress of the operation of the properties of the railroads. Provision would be made for a temporary management like that of the United States Railroad Administration during the war period. However, supreme authority in this management would rest, not with a director-general of railroads, but with a board of five public trustees appointed by the President. No doubt they would intrust the management of the properties to a director-general, much as a board of directors selects a president for this purpose, but this would be left to their discretion. The public trustees would be authorized to issue for railroad capital purposes interim certificates guaranteed by the government and later to be exchanged for debenture bonds of the United States Railways described below.

Pending a final settlement for the properties taken, a provisional arrangement for a rental would be necessary, like the "standard return" of the federal control period. One way would be to use as a measure the best net railway operating income earned by each operating railroad company in any of the last four depression years, 1931-1934, inclusive. The statute would provide for the payment of such a rental for the period prior to the vesting of the title to the property in the United States Railways. The companies would have the right to contest this rental in court, if it was deemed to be unjust compensation for the use of the properties. Such a right was preserved in the Federal Control act, although the companies did not avail themselves of it.

For the permanent ownership of the properties a federal corporation, known as "United States Railways," would be created with a nominal amount of common stock to be held by the government and carrying control. It would be authorized to issue debenture bonds of various classes, all protected by sinking funds, and such classes of income bonds or preferred stock as the public trustees might deem expedient. The debenture bonds would be guaranteed by the government.

The securities of the United States Railways would be the media used in final settlement for the properties. Obviously cash transactions would be impossible, for the necessary cash does not exist. Just compensation must, under the constitution, be made for the properties, and the controlling factor in determining such compensation is their value—not the so-called "rate-making value," which is dependent upon the present and prospective earning power. The present earning power is low, as is attested both by the actual earnings and by the current market values of railroad securities. Future earnings will be affected by so many uncertain factors that it would be difficult to establish the fact that they justify any very large or any definite increment in value over that based on the present earning power. But, it is desirable that the present holders of railroad securities should

have an opportunity to benefit within reasonable limits from future increases in earnings, if they are realized.

The companies would doubtless have a right to insist that the payment for their properties be made wholly in the guaranteed debenture bonds. The statute would provide for a special commission, to be appointed by the President, whose duty it would be, in the event of such insistence, to hear the evidence and determine the amount of such bonds to be paid. The statute would prescribe the basis of valuation, making it clear that the controlling factor is earning power and not any kind of cost, and would make the findings of the special commission final on the facts. They would, of course, be reviewable by the courts on questions of law.

The companies or the owners of the securities could, however, be given the option of a voluntary settlement on a different basis to be negotiated with the public trustees, either directly or indirectly through such agency or agencies as they might set up for the purpose. The general basis of such a settlement would be payment in part in guaranteed debenture bonds and in part in income bonds or preferred stock not guaranteed. The amount of bonds would be adequate in value to protect the carriers' bonds of proved earning capacity, and it would be supplemented by a rather liberal allotment of non-guaranteed securities, the object of which would be to give the present security holders an opportunity to benefit from a possible future earning power which cannot now be demonstrated. The public trustees would be given considerable discretion in such settlements, although it would be necessary to set certain maximum limits to their discretion.

The opportunities which such voluntary settlements would afford are dependent upon the method of operating the properties after they have been taken over by the United States Railways.

TOWARD NATIONALIZED RAILROADS

(An article by Winthrop M. Daniels in Current History, volume 41, pages 407-412, January, 1935.)

Whether the federal government will take over the railroads is fast ceasing to be an academic question. It is now by no means impossible in the near future. Joseph B. Eastman, federal coordinator of transportation, reported to the senate in 1934, that "theoretically and logically public ownership and operation meets the known ills of the present situation better than any other remedy. * * * When an industry becomes so public in character that such intimate regulation of its affairs becomes necessary, in strict logic it would seem that it should cease to masquerade as a private industry and the government should assume complete responsibility, financial and otherwise."

It is true that the coordinator does not at present recommend public ownership and operation "because of the impaired condition of the nation" and because "the immediate burden upon the public finances might be great." But his judgment as to the eventual solution is unmistakably clear, and there are some grounds for thinking he overestimates the financial load which the government would immediately assume were it to require control.

For several reasons, eventual government ownership is not unlikely. In the first place, the roads as a rule have been upon a prolonged fast. They entered the period of depression fairly well able to weather a moderate recession of business, or even a major recession, if not unduly protracted. With ample cash assets, many of them continued dividend disbursements for some months after net operating income had declined or disappeared. Apparently they thought to make a calm by laughing at the storm. But the depression continued, and shows no signs of abatement.

It is frequently said that a newly launched enterprise must expect to encounter an initial "starving period" of several years before it begins its earning career. But when, after attaining maturity, it is called upon again to undergo a five-year famine, the outlook for eventual recovery is far from hopeful. In January, 1934, some 75 railroads, operating a total of 42,340 miles, about one-sixth of the total in the United States, were in receivership or subjected to court control under the Bankruptcy act. Had the RFC not gone to the rescue with large loans the insolvent brotherhood would have inevitably grown. As a drowning man will clutch at a straw, a starving corporation will accept financial aid from an alien source even at the sacrifice of its former independence.

This dependence of the railroads upon the government is shown by the extent to which they have sought and received government aid. The PWA has advanced about $200,000,000 to roads which ventured to continue with new construction projects or to make good some part of their deferred maintenance. The RFC has lent over $400,000,000 to roads which ventured to continue with new construction projects or to make some part of their deferred maintenance. The RFC has lent over $400,000,000 to various carriers on the verge of bankruptcy. What is not fully realized by the roads or the public is that every time Uncle Sam dips one hand deeper into his pocket to aid distressed railroads the further forward he reaches his other hand toward taking complete control.

The case has its parallel in the advances made by the government in the last eighteen months to needy banks. Where in return for financial assistance the government induced banks to issue and sell to the treasury the new preferred bank stock, or to make the treasury a preferred creditor for capital loans, the government became not a sleeping but a senior partner. Over 90 per cent of the Federal Reserve Banks and about 30 per cent of the assets of member banks consist of government securities. The treasury has thus strengthened its stranglehold on the banks until they have become fiscal satrapies whose chief function is to absorb new government loans at dictation. Should the credit of the government fall but moderately, banks whose assets are chiefly in government bonds would see a practical disappearance of the equity of the common stockholders, and could readily be nationalized on reorganization if the treasury asserted its preferred position.

That the borrower is servant to the lender has long been an established axiom. It applies also when the government functions in the lender's role. The situation when federal control of the railroads was ended in March, 1920, differed markedly from the present situation. Under war emergency,

the federal government had assumed their operation. Despite the rises in prices and costs attendant upon the war, the railroad administration did not deem it wise to raise rates sufficiently to recover the costs. When the roads were returned to the owning corporations it was generally conceded that until a newer and higher rate structure, adjusted to the new level of prices and costs, was set up, the carriers because of their previous involuntary captivity could not pay their way. Moreover, during the government administration additions and betterments had been made with the primary objective of providing war transport, not with a view to supplying the new capital requirements which normal peacetime operation would have demanded.

The railroad loans which were therefore provided in the Transportation act of 1920, as the outcome of previous federal control, were intended only for the temporary assistance of the carriers, to help them emerge from a situation into which they had been plunged by previous government action. The existing loans from the RFC are of a totally different character. Instead of being a virtual reparation for embarrassments previously created by the government, they are frankly eleemosynary, with a repayment string attached. With the government in the role of Lady Bountiful, it may not be strange that the railroads sought the shelter of public credit. If it was to be the function of the government to lend to the banks, to the farmers, and to necessitous debtors generally, why not to the railroads? They but acted as did the individual who avowed: "When I saw everybody holding out his hand, I held out my hat."

Unfortunately for the railroads, by accepting government aid they expose themselves to having thrust upon their directorates a representation of the lending interest. It is difficult for them to explain why he who pays the piper shall not have a voice, at least in calling the tune. It is not alone the "sons of the wild jackass" who ask the question and who suggest the answer. The coordinator himself, in his first report, remarked in reference to requiring federal incorporation to enforce railroad consolidation that "the Craven plan of public directors on the boards of such corporations should be put to the test, when and where the commission finds that it can be tried without detriment to other railroad companies not having such public directors."

It is also strongly urged that only by the intervention of public authority in the field of managerial judgment can waste and preventable expense be avoided. Thus, the coordinator recently ordered the Louisville & Nashville to continue the interchange of through passenger-train equipment for the Dixie route with the Chicago & Eastern Illinois at Evansville, Ind., when the Louisville & Nashville had arranged to operate its equipment between Evansville and Chicago over the New York Central lines. The coordinator based his order on the ground that unnecessary duplication of service and unnecessary capital expense must be avoided.

Moreover, the series of reports which the coordinator is issuing calls attention to extensive economies which might be secured by various changes in railroad operation. The Merchants Traffic report suggests potential

annual economies of over $87,000,000. The report on the proposed pooling of box cars gives $75,000,000 a year as a "conservative estimate of the operating savings possible." No doubt when the coordinator's staff issue their reports on the present conduct of carload traffic and passenger traffic, other extensive potential economies will be disclosed.

These so-called "wastes of competition," which inhere in persistent carrier rivalry, and which would be saved by a cooperative railroad policy, do not necessarily imply government ownership as the sole remedy. Either a greater degree of voluntary cooperation through a wide extension of the pooling device, or the actual consolidations of railroad properties might achieve similar economies. But if the roads are reluctant to apply pooling arrangements, and if their finances for the time being preclude consolidation, the alternative of realizing the alleged possibilities of vast economies in operation is said to lie in government compulsion or government operation.

The reason assigned by the coordinator for not recommending government acquisition of railroad properties at the present time is the "impaired economic condition of the nation" and the heavy immediate additional burden that would be laid upon the public finances. Waiving altogether the prior question of the desirability of government-owned roads, we would suggest that the difficulties to immediate government acquisition are not as great as the coordinator assumes.

The impaired economic condition of the nation is reflected in that of the railroad companies as a whole. The par value of their aggregate stocks in the hands of the public is about $7,150,000,000. With Pennsylvania shares, for example, selling at 45 per cent of par, New York Central at 20 per cent of par, Baltimore & Ohio at 15 per cent of par, and shares of lesser companies at prices far lower, it is conservative to estimate that the aggregate current market value of railroad equities is not one-third of their par value. Even when allowance is made for the few exceptional properties such as the Union Pacific and the Pocahontas roads and the guaranteed stocks of certain leased lines, the aggregate market value of railroad equities can not be more than about $2,350,000,000. It is hardly necessary to suggest that corporate control may be secured with no more than a 50 per cent interest.

A little over $1,000,000,000 would have been the cost of securing government control of the railroads of the country, had the marketing operations been possible with requisite secrecy and dispatch. Several times that sum has been spent by the treasury on various forms of "self-liquidating" projects and public works. The so-called profit from the debasement of the gold content of the dollar would have been more than ample to finance the acquisition. Had the extreme new dealers had the imagination and audacity which prompted Disraeli to buy the Suez Canal shares for Great Britain, or which moved Jefferson to buy Louisiana for the United States, they could have achieved government control of all railroad properties in the United States, and Congress would have fallen over itself in its haste to ratify the acquisition.

True, the roads thus acquired would have been burdened with funded debt charges of $500,000,000 a year. But this debt service charge and also annual taxes paid by the railroads are now in great part earned by the roads

from their current operations; and if the economies recited by the coordinator's reports were remotely realized, the bond interest would be taken care of by the properties themselves, with no additional burden on the public finances. In short, the prevailing market levels of railroad stocks would have afforded the government an opportunity of buying control of the entire railroad system at a minimum cost.

The final reason why government ownership seems possible in the not distant future is that holders of railroad bonds have become very much discouraged over the future of these assets and are only too ready to listen to a proposal to exchange them for government securities. Something like $3,000,000,000, or about 15 per cent of the total investments of life insurance companies, are said to be in railroad bonds. The mutual savings banks hold perhaps another $1,000,000,000 of the same securities. The coordinator reports that numerous executives of insurance companies, banks, and similar institutions, as well as large individual holders, "are beset with fears with respect to railroad investments"; that the "confidence inspired by the provisions of the Transportation act, 1920, has gone, and disillusionment has taken its place."

"In the five years ending in 1938," says Vice-President County of the Pennsylvania, "close to $2,000,000,000 of railroad debt matures, and must be refunded, including part of the large short-term borrowings from the government for improvements and maintenance." The president of the Security Owners Association, in the pending case asking an advance in railroad rates, testified before the Interstate Commerce Commission on behalf of the association's members, who hold in excess of 40 per cent of the par value of the total outstanding railroad funded debt, that "the confidence of investors, who have in the past provided the railroads with capital through the purchase of their bonds, has been based largely on the belief that regulation meant stabilization of return. The drastic shrinkage in market values, and the actual or threatened cutting off of return on investments, has shaken that confidence, but the belief that regulation must and does recognize its functions still persists." He therefore asked on behalf of 60,000,000 life insurance policy holders and 13,000,000 depositors in mutual savings banks "immediate constructive relief." If that should not be forthcoming, he thinks "there can be little basis for the expectation that they [the railroads] will play an important part in the economic recovery of the nation."

To summarize: The likelihood of government ownership and operation of the railroads in the not distant future is due to the large existing burden of railroad indebtedness to the federal government; to the impending maturities of railroad debt which threaten widespread insolvencies if government loans are not further extended; to the depressed market price of railroad stocks, which would make available a controlling interest at a low figure; and to the eagerness of the largest holders of railroad bonds to surrender them in exchange for government obligations.

If one were foolish enough to essay the role of a prophet and to leave out of one's reckoning those unexpected occurrences which always bedevil the prediction of future social phenomena, the prophecy would run as follows:

First, in the pending rate advance case the carriers will receive half a loaf or none at all; second, the next session of Congress will not establish effective and comprehensive regulation of the railroad's competitors, nor cease to accord virtual subsidies to motor traffic highways and to inland water routes; third, increased receiverships, in the absence of an industrial revival, will follow; and as the outcome, a substantial policy of nationalization will be inaugurated. Of course, there may be a miraculous way of escape, but unfortunately, the divinity who in the past has always been supposed to take special charge of children, drunken men, and the United States of America seems to be gone on a far journey.

The probable drift toward nationalization will be speeded up, then, with the prolongation of industrial depression. But it is one thing to recognize the drift, and another to ride complacently with the current. The deadening effect of bureaucracy and the poisonous effect of politics on industry would both have to be encountered if the government owned and operated the railroads. Even the coordinator would put control, if the railroads were nationalized, in the hands of a non-partisan political body of trustees. As he says, "the tendency in countries which have public ownership and operation is now definitely to separate the railroads from ordinary governmental activities and make them autonomous, non-political enterprises." Whether this ideal could or could not be realized, it is significant that it implies the need of supermen for the job, and evident distrust of "that crafty and insidious animal called a politician."

There is no use, however, in imagining that the imminent danger of nationalization can be avoided by the carriers through a supine policy of leaning on the government credit—while it lasts—or by invoking the special solicitude of Congress upon the widows and orphans whose income depends on railroad bonds. It is only by a rigorous self-regulation that they can escape the calamity that yawns before them. They will not be able to shame Congress into a decent respect for their rights until they have done for themselves what both prudence and principle dictate. What are some of the things that this policy involves?

First, it means eliminating from the property accounts of the railroads a quantity of alleged assets whose only title to the name is their past cost. The issue is not one of overcapitalization in the old sense of the term. Only those with "water" on the brain can be blind to the fact that the aggregate of railroad securities outstanding in the hands of the public is less than the actual investment in the properties. But there is nothing sacred, in the economic sense, in the magnitude of past cost incurred, even though it be beatified as "prudent investment." Many of these past investments are today one with Nineveh and Tyre.

There are thousands upon thousands of branch lines of railroad whose value to their owners, or whose necessity to the public, is wholly negative. While there have been many petitions by carriers to abandon some parts of their mileage, the corresponding duty to amortize their capital obligations is apparently neither conceded by the carriers nor emphasized by the Interstate Commerce Commission. L. F. Loree, president of the Delaware & Hud-

son, asserts that there are 70,000 miles of tracks that ought to be discarded. Keeping their cost in the balance sheet figure as part of the live investment in road and equipment is simply idle and misleading.

Correlative to a realistic write-down of assets is a reduction in capital liabilities, such as a lessening of the par value of stock, and eventually an amortization of the bonded indebtedness incurred for these vanished elements of value. In his supplemental report to that of the so-called Coolidge committee, Alfred E. Smith hit bedrock when he observed: "I am satisfied that the general public will not tolerate writing up values or increasing rates merely upon the theory that a great many railroad securities are held by savings banks, trustees, and insurance companies as security for widows or other beneficiaries of trust."

In the second place, the railroads must show more disposition to effect operating economies along new lines, especially those that involve conjoint action through the use of the pooling device. Many of the paper savings that the coordinator's staff are displaying in their reports will no doubt disappear when and if the proposed new methods are attempted. But there will probably be a considerable residuum that can and ought to be realized. In some instances demonstrable economies are obtainable by doing away with needless duplication in competing lines. Clearing house arrangements illustrate another possibility. Until the roads exhaust their capacity for self-help they cannot look for relief at the hands of Congress. The only possible reform that may come promptly from Congress is a statute that would forcibly expedite the reorganization of bankrupt railroads.

Even if the carriers came before Congress with an absolutely clean bill of health, it is by no means certain that they could, without tireless effort and disheartening rebuffs, obtain the legislation which they claim as of right and not of favor. That Congress should extend regulation to the railroads' competitors by highway and waterway is abundantly clear. That subsidies should be withdrawn from these competitors is dictated by every just consideration. Eventually, when the opposition of self-interested lobbies is overcome, this result may obtain. In the meantime, the whole mechanism of transport may have been nationalized.

GOVERNMENT ACQUISITION AND OPERATION OF RAILROADS IN THE UNITED STATES

(An article by Burton K. Wheeler, in the Annals of the American Academy of Political and Social Science, volume 187, pages 142-145, September, 1936.)

Oddly enough, there appears in the press and in trade papers a constant and steady stream of articles, news items, and accounts of speeches criticising government ownership of railways, while at the same time there is a complete lack of any formidable agitation for such a plan. Perhaps this can be explained by the fact that railroad managements realize that we are closer to government acquisition than we have been for many years.

Most of the railroad mileage of the world is publicly owned and operated. This public ownership has come about largely through the inability of private operation to meet the need for efficient transportation, and through inability to finance the roads privately. The fact that over 70,000 miles of class 1 American railroads are now in the hands of receivers and trustees, and the fact that the government has become practically the only source of railroad credit, present a situation which closely parallels the pre-acquisition period of other countries.

It is not necessary to engage in any lengthy discussion of the wisdom and appropriateness of government operation of the railways, and I should like to stress that irrespective of whether or not we ever take such a step as a matter of principle, we should be prepared to take it as a matter of expediency.

Unquestionably public ownership is within the power of the federal government and is not in any way inconsistent with either the constitution or the early railroad legislation. The Supreme Court has stated that the operation of interstate railroads is in fact a governmental function, and that if it is intrusted to the hands of a private corporation, then that corporation is exercising a function of government.

At the time of greatest railroad expansion the federal government was in no credit position to undertake such an enterprise. In the case of the Pacific railroads it entered into a cooperative arrangement, making huge land grants and large loans, in return for which the roads were to be operated primarily in the public interest. How the Pacific railroads carried out their part of this public trust is so much a matter of record that it is unnecessary to dwell upon it.

From these first charters to the present time, the relations of the railroads to the government have been unsatisfactory for one reason or another. From 1889 down to and including the present moment, the pulling and hauling over the extent of federal regulation has been constant. The carriers have complained that the placing under the very rigid and slow procedure of the commission of questions of "a managerial or executive nature" has prevented them from meeting competition and adjusting facilities to changing demands.

The Interstate Commerce Commission, on the other hand, has been disturbed by a feeling that it does not have enough control over certain impor-

tant phases of management. In many instances the commission's lack of control over holding companies and financial transactions has negatived the exercise of its regulatory powers.

It is important that the railroads be not allowed again to ride roughshod without restraint; yet there is real force in the contention of the carriers. If regulation is extended much farther, a wholly impossible division of responsibility will be approached, where executive decisions are lodged in a government agency, and financial responsibility in private parties. Clearly, if we are going to extend federal regulation, we should also extend federal responsibility.

Certainly some decision and definition of policy are imminent. The 70,000 miles of railroad property in bankruptcy and receivership represent over one-fourth of the entire mileage. Many other thousands of miles are near the line. For quite a percentage no satisfactory solution is in sight, because they are not able to earn operating expenses. No receivership or financial reorganization, even if it wipes out 100 per cent of the claims, can rehabilitate a property which is unable to earn its operating expenses.

NECESSITY FOR CORPORATE FORM

There are several reasons why the corporate form would be necessary in acquiring and operating the railroads. Coordinator Eastman, in a report to Congress, senate document 119, Seventy-third Congress, listed the following as the dangers most emphasized by the critics of public ownership:

"1. Extension of political patronage (the 'spoils system') into the service;

"2. Interference with rate adjustments, particularly to help certain groups or localities;

"3. Interference with construction programs, particularly to promote large expenditures for the benefit of certain localities, or as a means of social relief;

"4. Interference with labor relations, including wages and working conditions."

By setting up such a corporation to be known as the United States Railways, possibly employing a statutory grant of power similar to that in the Tennessee Valley Authority act, and with additional specific safeguards, these dangers could be avoided. The trustees of such a corporation should be appointed without reference to political affiliation, and for terms of at least ten years. They should be paid salaries perhaps out of line with other government salaries and large enough to compensate reasonably the very highest type of executive.

In a bill which I have introduced into the senate providing for the creation of such a corporation, there is provision that the trustees may not be removed except by the President for a violation of the act, and also a provision declaring unlawful the solicitation or recommendation of the appointment or dismissal of any trustee, or of the appointment, promotion, demotion, or dismissal of any officer or employe by any officer of the government or by any political party or organization. These provisions are intended to establish

clearly, from the beginning, that political considerations are to have no part in the administration of the corporation.

It must be admitted that the success or failure of the United States railways would entirely depend upon the ability of the first board of trustees to administer the act in such a way that the respect of the public and of Congress would guarantee it freedom from interference. It could not in any sense of the word be established on the same basis as an executive bureau or department, but would have to stand upon its own feet as a business enterprise, in which the people, through the government, would be the chief beneficiaries. Whether this could be accomplished depends to a certain extent on the circumstances and on general conditions at the time the corporation was set up. Dozens of new and complicated problems would face the board. If Congress can pass an act carefully enough drawn, and if public sentiment is aroused solidly back of efficient operation, I have no doubt that the type of men necessary could be enlisted for this public service.

One of the most perplexing problems would be the actual form of management itself. There is some question whether a board of trustees of five or seven members would be flexible enough to supply efficient management. Perhaps it would be better to have one man exercise most of the excutive functions, subject to modified control by the more cumbersome board. There is also the danger of over-centralization with its resultant inefficiency. The corporation would have to decentralize managerial responsibility in district offices. It may very well be that such decentralization of responsibility would also prove an inducement to a higher type of personnel. Under the proposed legislation, authority is given to incorporate such subsidiary units as might be necessary to effect a decentralization.

By far the least perplexing problem and perhaps the most interesting, both from a legal and from an economic standpoint, is the question of rates and charges. Under the plan proposed in my bill, all regulation except as to rates and charges, certificates for new construction, and acquisition of other transportation agencies, would be taken from the Interstate Commerce Commission. The commission would still be faced with the task of approving rates of the government corporation which would directly affect privately-owned competing forms of transportation for whose regulation the commission is responsible.

One of the most compelling reasons for government ownership is the possibility of establishing a much fairer and sounder rate structure. The present system of ratemaking has led to a rate structure which is beyond human understanding and which follows neither reason nor logic. I believe it is safe to assert that this is due entirely to the juristic conception of "fair return."

The economists' conception of functional rates which will be low enough to stimulate demand in face of decreases in traffic cannot be put into practice so long as the present extent of judicial review is allowed. The tendencies of regulated monopolies are to resist any efforts looking to functional rates, and they have met singularly sympathetic treatment in the courts.

While it would be very dangerous for a government-owned railroad to

try to relieve sectional economic distress through ridiculously non-compensatory rates, still it would be possible for the corporation to keep the trend of rates somewhere near the general trend of prices and purchasing power. This policy would not only be of immense value from a social point of view, but would, I am confident, contribute to more stable operating revenues for the corporation itself. Experiments could be made in both passenger and freight business to determine whether much lower charges could not increase the volume of traffic to such an extent that what would seem now to be unreasonably low rates might be fully compensatory.

What results would be when the corporation decided generally to revise these rates and charges is a matter of speculation. The courts have never actually passed on the question of a rate set by a government corporation in competition with a private corporation amounting to taking of property without due process of law. The only provision in my bill affecting rates states that they shall return as nearly as possible enough net earnings to meet all charges, including a sinking fund. This is very general language, and it might be desirable to give the corporation, the courts, and the commission more specific directions as to the corporation's powers in this respect.

While it is specifically stated that the mantle of sovereignty does not cover its operations, in that the corporation may sue and be sued in its own name, the bill offers a fine opportunity to restrict the powers of courts to substitute their discretion and judgment for that of the commission and the corporation and to tie up effective regulation for years on end. If it may be accomplished constitutionally, the power of the courts should be limited to determining whether the corporation or the commission has acted arbitrarily.

The bill provides a method of acquisition by condemnation of securities which would greatly simplify the procedure for transferring ownership, and obviate the necessity for taking every piece of physical property by eminent domain. It is likely that this would also insure a fairer price to the government than would condemnation proceedings for the actual physical property.

The corporation is authorized, either in condemnation proceedings or in voluntary agreements, to exchange securities of the corporation for the private securities, with interest and dividends contingent upon the earnings of the corporation. This would not necessitate any great outlay of money by the federal government in acquiring control.

We have lately been overwhelmed with many horrible examples of public ownership. Statistics purporting to prove that public ownership is wasteful, inefficient, and politically controlled have been dug up and published. Charges and accusations have been made that public officials are inefficient and that graft abounds in public administration; but these statistics have nothing to do with the question of ownership and operation of the railroads by the American people for their own greatest benefit. When the proper time comes, and when public sentiment is sufficiently interested and sufficiently convinced that public ownership is necessary to the general welfare, public ownership will come. And there is no sound reason why such a course cannot result in greater efficiency, in a greater sense of public responsibility, and in an impressive step toward a more abundant life.

RAILROADS: GOVERNMENT OWNERSHIP?

(An article by Burton K. Wheeler in the Rotarian, volume 46, pages 13, 63-66, June, 1935.)

No better testimonial of the timeliness of a discussion of this subject can be shown than the numerous memorials and petitions that have been sent to Congress lately by various civic organizations and service clubs protesting against government ownership of railways. This was before legislation on the subject had been introduced in Congress and before there had been any recent debate on the matter, and it has struck me as an attempt at locking the barn before the horse gets in. These protests have been mainly based on a fear for the destruction of capitalism and unnecessary governmental interference with private enterprise.

It would be well to point out, however, that the peculiarly public function of our arteries of commerce makes it essential that there be enough government interference not only to protect the public against any mishandling, but to insure to the public the best possible system of transportation. This has never been seriously questioned legally or economically in the last hundred years, nor, for that matter, as far back as 2,000 years.

How well this concept fits in with the American constitutional government may be seen from a decision of the United States Supreme Court in 1873:

"That railroads, though constructed by private corporations and owned by them, are public highways has been the doctrine of nearly all the courts ever since such conveniences of passage and transportation have had any existence. Very early the question arose whether a state's right of eminent domain could be exercised by a private corporation created for the purpose of constructing a railroad. Clearly it could not unless taking land for such a purpose by such an agency is taking land for public use.

"The right of eminent domain nowhere justifies taking property for private use. Yet it is a doctrine universally accepted that a state legislature may authorize a private corporation to take land for the construction of such a road, making compensation to the owner. And the reason why the use has always been held a public one is that such a road is a highway, whether made by the government itself or by the agency of such corporate bodies. . . . .

"It has never been considered a matter of any importance that the road was built by the agency of a private corporation. No matter who is the agent, the function performed is that of the state."

Twenty-six years later the same court, after citing the above decision with approval, declared that:

"A railroad is a public highway and none the less so because constructed and maintained through the agency of a corporation deriving its existence and powers from the state. Such a corporation was created for public purposes. It performs a function of the state."

Rail transportation must of practical necessity be monopolistic. If it is private monopoly, the stake of the public in it is so large that public regulation must be had to insure the greatest common benefit. This calls for an elaborate bureaucracy; reams and reams of rules, orders, regulations and

the like; prying into books, accounts, contracts, supervising rates, charges, extensions, and abandonments of service.

Yet this elaborate system of regulations fails in its purpose because, while perhaps it does protect the public from the more obvious abuses, there is no way for it to insure good management. And if, as the Supreme Court says, the railways are run as an agency of the government, then it follows that the duty of the government is clear to see either that they are well managed, or to supply new and more responsible management.

Clearly the Interstate Commerce Commission cannot regulate good business judgment into the railroads any more than Congress can legislate good sense into them.

The fact is that the railroad industry of the United States has been strangled at the neck. So far have the bankers gone in making the railroad business a mere adjunct of Wall Street finance, that in the case of many roads the chief executives are required to maintain their offices not where the roads do their business, but in Wall Street itself. The result has been that the railroad industry has for years been "going to the dogs."

Even in the boom years, the railroads were losing substantial portions of their long-established business. Instead of adjusting themselves to the new forms of competition springing up about them, instead of modernizing their plants to meet the new competition and new needs of the public, the railroads continued in a sleepy condition, while every day millions of dollars of the business which was already in their hands was slipping away from them.

The federal coordinator of transportation, Joseph B. Eastman, only recently pointed to the fact that the rate structure of the railroads is, in many respects, archaic, wholly unfitted for the modern needs of the shipping public. The result, of course, is that more and more the business has been slipping away. What else could be expected when the men in control of this great industry had their eyes on the stock market tickers and their minds on the stock market gambling?

The federal coordinator of transportation has been engaged in making a series of studies to show how the railroads could improve their condition and improve their business. Have the railroads benefited by these studies? You will find, if you look into the matter, that the appointees of the Wall Street fraternity have in many instances presented a solid front against putting into effect the very improvements basically necessary for their very life.

How has this method of conducting one of the backbone industries of the country affected the three groups most concerned with the industry? One of the groups, the shipping and traveling public, has gotten service far less adequate and far less satisfactory than the railroads could provide. Hence, the public has turned to other forms of transportation.

Now take the second group interested in the roads—the investing public. This group is made up, in part, of millions of people who have directly invested in railroad bonds and railroad shares. In addition there are many millions who have indirectly invested in the railroads. Their money has gone into life insurance companies and savings banks, which have invested sub-

stantial portions of their resources in railroad bonds. Tremendous losses have fallen upon these millions of direct and indirect investors in railroad securities.

Hundreds of millions of dollars of railroad stock have been made almost valueless. The bankers financing and reorganizing these roads have, in a number of instances, poured in so much water that the stock was really worthless from the very moment it was issued and sold to the public. Two well-known western railroads have already been shown to have an inflated capitalization of $100,000,000 or more each.

The shrinkage in bonds has been terrific. First mortgage bonds of some of these roads are selling as low as twenty cents and even ten cents on the dollar. Other railroad mortgage bonds, for which investors paid par within recent years, are selling as low as five cents and six cents on the dollar. The loss already sustained by the investing public runs into billions.

This has reduced the income on which millions of people have been depending. Even the indirect investors have already suffered. One of the striking things about this depression is that as policy holders found themselves less able to pay life insurance premiums, they have been obliged to pay higher premiums even than the premiums they paid in boom times. This, in part, is due to the heavy losses sustained by life insurance companies, a large part of these losses being in bonds of our railroads.

Bankers sometimes set up the defense that these losses are due to the depression and not to anything else. Let us examine this claim. In the first place we have the fact that the railroad industry has lost much business because it has not maintained itself as a modern industry, and this, in turn, is chargeable directly to the men who have controlled the industry; namely, the bankers.

But there is another side to it as well. The bankers are the ones who have exercised for generations complete control over the financial structure of the railroads. So poor has been the work of the bankers that, on the average, many of our railroads have gone into receivership every twenty years or even less. What would the ordinary man think of a house builder so incompetent that the houses he erected broke down in the first major storm? Yet the bankers have so built the financial structures of railroads in the United States that they have cracked and broken in every big financial storm. So striking has been the incompetence of the financial architects of the railroads that in the case of the biggest railroad reorganization to date, the new financial structure put out by the bankers in 1928 is ready to crash to the ground in 1935—which is almost an all-time record of incompetence.

I have spoken of incompetence, but let us not forget also that the bankers have received fees running into the millions, and their lawyers have received fees for themselves running into the millions, for doing these incompetent jobs to the detriment of the American investing public. All this has, of course, affected purchasing power in this country and deepened the depression for every business man in the United States.

Such incompetence has also cut down purchasing power in another way. It has cut down the number of employes connected with our railroad system.

In 1920, the railroads were employing approximately 2,200,000 men and women. So heavy was the loss of railroad business by our railroads—even in the boom years—that great numbers of railroad employes had to be dropped during the period of prosperity. Today the railroads are employing less than half the number of workers employed on this transportation system in 1920, and even the million or less employes of the present time are given such part-time employment that many of them have lost all their savings. What this has done to purchasing power every retailer who deals with railroad labor, every jobber who sells to the retailers, and every manufacturer who supplies the retailers and the jobbers, knows too well.

But this is not the worst of the story. The worst of the story is that in connection with stock market manipulation, and in obedience to orders from Wall Street dictated for the purpose of financial manipulation, railroad employes have time and again been laid off and purchasing power has proportionately been reduced.

This, in brief, tells the story of the control of a twenty-five billion dollar industry by a handful of men in Wall Street who have very little of their own money invested in the business. Can anybody point to any major government undertaking which has been so mismanaged, which has been so damaging to the general public served by that government undertaking, to the investing public or to the employes?

We have to face the facts realistically. The question is not one whether government ownership or government control is theoretically desirable or undesirable. The question is: What are we going to do as a practical matter? The rail question is whether a handful of men in Wall Street, who have for decades played fast and loose with the money of investors, with the jobs of employes, and with the requirements of the general public for a modern and efficient transportation plant, shall be allowed to continue in control for the future, or whether that control shall be taken out of the hands of this group and made more responsive to the requirements and the welfare of the public at large.

GOVERNMENT-OWNED RAILROADS

(An article by Oswald Garrison Villard in the American Mercury, volume 45, pages 211-214, October, 1938.)

The number of people who believe that government ownership of railroads is inevitable is quite large; the number of those desiring it *now* extremely small. Joseph B. Eastman, who has been a member of the Interstate Commerce Commission since 1919 and was appointed federal coordinator of transportation in 1933, and is the greatest railroad expert in the country, says that government ownership must come—some day. The American Mercury has printed an article to that effect, though opposing the change. The head of a transcontinental railway has told me that he is for it, but not until he can get the price for his railroad he thinks he should have. It is all distinctively suggestive of the middle-period of the abolition struggle, when so many good people favored gradual or eventual emancipation, but were never ready for the inevitable major operation.

The arguments in favor of immediate government ownership are many, among them the following: (1) If the government should seek to purchase control of the roads in the open market, this is the time to do it, with stocks and bonds selling at low depression prices and many of the railroads in bankruptcy. (2) This is the time for the government to act because nearly all the railroads are in a desperate situation, with no hope of private banking aid; many would not be earning their bond interest were it not that they are dangerously neglecting the upkeep of their properties. (3) It is admitted on all sides that if there are not to be wholesale bankruptcies, despite recent increases in freight rates and passenger fares, the government must help out by loans. (4) To remedy the whole situation by temporary loans to certain railroads is merely stopping a few leaks; immediate restoration of the credit of the railroads and their prompt and adequate financing can only come if the government makes a clean job of it, recognizing that the salvation of the roads has gone far beyond the possibility of private financing. Every banker and every railroad executive admits this. (5) Such being the case, the government should advance the money temporarily needed only as part of the major operation of purchasing the railroads at a fair price. (6) It is universally agreed that resumption of spending for actually necessary railroad equipment would do more than any other one thing, except a huge housing program, to aid in the restoration of prosperity in the nation.

Everyone admits that if the railroads could be brought under one management enormous savings could be made by the combining of terminals, by mass purchases, by the ending of needless competition, the unnecessary duplication of train service, and so on. There is marked disagreement as to just how great these savings would be, but there are competent critics who aver that they would be large enough to enable the government, in ordinary times, not only to meet all expenses and interest, but to retire gradually at one hundred cents on the dollar on the bond issues of the railroads. One has only to recall the huge sums the railroads have paid in commissions to Wall Street bankers for new financing, refinancing, and often for crooked or incompetent reorganizations, to realize what could be saved if the government did the financing. That the government can float the bonds which would be needed is perfectly obvious if one looks at the situation of the junior securities now issued by the government at low rates of interest.

At this point come the inevitable objections to government ownership *now:* that it would be another terrific job when the government has more than it can handle well; that it will mean another dangerous increase in the already too-great powers of Washington; and a huge increase in the federal bureaucracy. To these is added the statement that government management means waste and inefficiency, as witness what happened when the railroads were taken over by the government during the war. Obviously these arguments will be made against government ownership fifty years hence as well as now. But this is the place to answer them.

First, I recall that the government took over the railroads during the war simply because they were breaking down under private management and were unable to handle the necessary supplies and movement of troops. I believe with Walker D. Hines, the second war-time federal director of rail-

roads, whose book on what was actually accomplished should be required reading before anybody is allowed to say what happened in the war years, that the government did a good war-time job with the railroads. I also believe that a war-time experiment is not of itself evidence of what the government can do in ordinary peace time. As for government management always meaning waste and mismanagement, in all the history of American business there have never been more shocking cases of mismanagement, nepotism, inefficiency, corruption, and betrayal of the public interest, than have been furnished again and again in our railroading as a whole.

Next let me point out that my plan for government ownership does not visualize the appointment of a secretary of railroads with a seat in the cabinet, or the establishment of any bureaucracy whatsoever. The device which should be utilized is the same that the government has successively used in the management of the Panama Railroad and Steamship Company, the Alaskan Railway, and the Mississippi Barge Canal Company. There is disagreement as to just how profitable the last named company has been, but no one can dispute Major General Ashburn's statement that politics has never entered into the conduct of the corporation and that it is just as efficiently managed as is the Panama Canal—incidentally I have yet to hear of any scandal in connection with the Alaska Railway. The scheme to be adopted is the formation of a corporation, the United States Railway Company, similar to the Railway Express Company, with a board of directors to be appointed by the President representing four groups, the government, the railway employes, the shippers, and the traveling public, just as there is a special board of directors for the other companies I have mentioned. The headquarters of the company should not be in Washington, but in Chicago or elsewhere, and it is idle to say that a satisfactory executive could not be obtained when Joseph B. Eastman is available.

This device of a government-owned corporation in place of a government bureaucracy worked extremely well in a large number of cases under the German republic. There, on occasion, the government bought fifty-one per cent of the stock company and allowed the remainder to continue in the hands of private investors; the government then appointed a majority of the directors, making no other changes whatsoever in the structure or the management of the corporation. The placing of representatives of labor on the board of directors of the proposed railway corporation is a vitally important point; their presence would enable them to get a complete insight into the financial and management problems, and give labor the stimulating sense of taking part in the management. It would be easy to specify that the directors representing the shippers and the traveling public should be nominated to the President by the traffic or freight associations.

In this connection we should recall the great protests that were made, first when the government went into the parcel post business—all the old arguments of waste, extravagance, mismanagement, and bureaucratic methods—and the similar outcry when, in 1918, the government wiped out the private express companies and formed the American Railway Express. Every innovation of this kind produces the same protests, yet the truth is that there has been a steady improvement in the efficiency of government management, and

I say this in spite of the waste and extravagance and mismanagement of many of the New Deal undertakings. A country that can run the Panama Canal as we have, that has made such a magnificent record with out national parks and forests, and our coast guard, can certainly make a success of railroad management if it desires to do so. The fact that almost every American comes into contact with railroading gives the assurance that mismanagement would quickly be forced upon the attention of every American voter.

POINTS FAVORING GOVERNMENT OWNERSHIP OF THE RAILROADS

(Compiled by editors of the Bulletin)

1. Railway transportation is essentially of a public nature. It cannot be regarded as of a private nature, even though the government allows privite enterprise to operate it. Nowhere today in civilized countries is private operation allowed to go unregulated by the government; it must conform, as far as possible, to the public interest and welfare.

2. Railway transportation is in the main essentially monopolistic. Even where privately operated, the government must allow much of it to be monopolistic, in order to save in the expense of its operation and to add to its efficiency. If railway transportation is in its very nature monopolistic, it should be publicly operated.

3. All sections of the country need railway transportation—must have it before they can be properly developed. In many sections private management cannot make profits, and, therefore, will not operate. Private enterprise must of necessity work largely for profits, and for immediate profits. To develop certain sections of the country by means of railway transportation, the state must play a large part. All sections need development, both for their own sake and for the sake of the country as a whole. Government operation, which is fundamentally for the purpose of rendering service to all sections of the country, can give to the undeveloped and sparsely settled places, where little traffic exists, the necessary services for their development.

4. Railway charges, especially freight charges, enter into the cost of every commodity which the consumer uses and the producer sells. All citizens of a country are direct consumers of these products; most of them are directly or indirectly producers of products. Private operation does not and cannot completely recognize this fact. A democratic government must see to it that railway charges are for the best interest of all its citizens.

5. To operate the railway service of a country calls for all that is best in the government. Railway transportation is the largest individual task of any people, and for the government to perform this task successfully it must elevate itself to the highest possible plane of efficiency and fairness; it must always work to make itself capable of rendering the most universal service and the most effective service.

5. The government may make some net revenue out of the railway operation, which can be used for maintenance or the performance of its other functions. This would relieve the taxpayers from some burdens of taxation.

NEGATIVE REFERENCES

THE CASE FOR PRIVATE ENTERPRISE IN RAILROADS IN THE UNITED STATES

(An article by Lewis C. Sorrell, in the Annals of the American Academy of Political and Social Science, volume 201, pages 129-136, January, 1939.)

At the outset, some necessary limitations of viewpoint and approach must be indulged for the sake of clarity.

The term "private enterprise in railroads" means that system of economic organization under which private capitalists contribute the necessary capital and assume responsibility for the results of the undertaking. Through the authority conceded to ownership—an authority which today is challenged and seriously restricted—such owners have the right to choose or approve the choice of those who actually manage the properties, to approve or disapprove their policies and actions, and, as ultimate risk-holders, to act in general as underwriters of the venture. At all times such private property rights are subject to government control, and in the case of the railroads that government intervention has proceeded so far that it virtually amounts to participation in management without ownership responsibilities. This is the system that is described as private enterprise in railroad transportation, and that has been the policy of this country down to the present time.

The practical alternative to this system—but not the only conceivable one—is that of government enterprise, under which the government becomes capitalist-owner and assumes pecuniary responsibility for railroad operation. In a country where the railroad system is already built and operated by private owners, the government acquires that ownership either by purchase from private interests or by confiscation, gradual or immediate. If the former method is employed, the government may exchange its own bonds for the securities of the private railroads directly; or indirectly by selling bonds and buying the properties with the proceeds; or may accumulate the needed funds by taxation. From the government standpoint, it is usually preferable to effect a direct exchange of securities as far as possible under a system of law that accords the reality of due process to the individuals who own the railroads. At least for the purposes of discussion, it is assumed that a government buyer of the railroads would employ its sovereign power only to deal equitably with the seller under a forced sale.

Admittedly, there exist many instances of mixed government and private participation in railroad undertakings. In some countries, governments own some railroads and private interests hold the rest; and in others, government and private interests are joint venturers in the same properties. Furthermore, private ownership often exists with government operation, and government ownership with private operation. The diverse circumstances of time and place may seem to necessitate and justify such hybrid arrangements; but it is assumed herein that at present and in the United States, the practical choice lies between complete private ownership and operation, and complete government ownership and operation, of substantially the entire railway system.

Focusing the issue upon the United States today of course dictates a choice of policy in terms of conditions that exist therein and that are likely to persist for some time to come. Neither system is assumed to operate at all close to a theoretical ideal, but under the normal or average conditions of human capacity and integrity.

With the question thus definitely limited, the American people must answer three basic questions: Do they wish to preserve the system of private enterprise in railroad transportation, upon which they have hitherto relied to furnish this service? Should they desire to do so? And are they sufficiently alert to the crisis that confronts private enterprise in railroads and threatens its continued existence, that they will insist upon the sacrifices needed to preserve it?

In so far as public sentiment is an index of what the public really desires, it is evident that the general public, by a preponderant majority, does prefer a continuation of the private enterprise system in rail transport. This was clearly shown in the poll of opinion on this subject conducted by the American Institute of Public Opinion and released February 25, 1938. In answer to the specific question "Do you believe that the government should buy, own and operate the railroads?" 70 per cent replied in the negative and 30 per cent in the affirmative. The question "Do you think the railroads would be run more efficiently if the government owned and operated them?" elicited a 65 per cent negative vote. And the further question "Do you think the government will have to take over the railroads eventually?" produced a 62 per cent negative response.

The attitude of what is collectively called "American Business" is weighted even more heavily in favor of the existing system. The views of this group were ascertained during 1935 and 1936 by the Transportation Conference of 1933-35, replies being received from 666 local, state, and regional, and national associations of business interests. Of this number 645 were unequivocally opposed to government ownership, 2 seemed to favor that proposal, and the remaining replies were indecisive. Since American business is based on the private enterprise system, it is but natural that business groups should be heavily inclined toward the same system in transportation.

Among the special interest groups most directly concerned with rail transportation, such as shippers, employes, investors, and similar groups, sentiment lines up on the side of private enterprise. Those who rule the railroads, investors in railway securities, railroad managements, railway supply houses, and competing forms of transportation, all appear to prefer private ownership and operation of the railroads. At least twice during the last twenty years, organized railway labor has declared for government ownership, and it has done so within the last three years. Doubtless such declarations have originated, partly at least, in a belief that the special interests of railroad labor might be served better by that arrangement; but it is not altogether clear to what extent these views are shared by the rank and file of rail employes, and how much they have been elicited for trading purposes.

Although the actual decision as to whether the American people ought to prefer private enterprise in railroads is more likely to depend upon the

course of economic and political events than upon a careful and conscientious appraisal of the many factors that are inherent in the issue, nevertheless this interrogative is the crucial one. Solutions which have been accepted by other countries must be studied in the light of contemporaneous conditions, and cannot be appraised apart from their social habitat.

Since action is often stimulated by appeals to supposed self-interest, it is natural that the pleadings of those who favor private enterprise, and also those who espouse government entrepreneurship, should be directed toward motivating large special interest groups. The railroads necessarily have millions of shippers and users, millions of investors (direct, and indirect through holding policies of insurance companies, and deposits in savings banks), a million or more employes, thousands of railway supply houses (and their thousands of employes), a large group of executives that manage the properties, and thousands of competitors employing other forms of transport.

Each of these groups has an important stake in the railroad system; and each is likely to be affected favorably or unfavorably—in some instances in both ways—by a change from private to government management of the properties. Sometimes their apparent interests are similar, and at other times they appear to diverge widely. Hence the effort to make it appear that the proposed change will in reality benefit all groups and seriously injure none; for example, and as applied to the instant case, that the change in entrepreneurship from private to government account will markedly lower freight and passenger rates, very substantially advance railway wages, yield better returns to the present owners of railway securities, and impose no additional burdens upon the long-suffering taxpayers of the nation. It would be a marvel indeed if this simple change in the basis for selecting management could actually yield such dividends in human happiness!

The class of self-interest groups leads to a search for a general-welfare or public-interest solution of the problem. Discarding efforts to identify public interest with the desires of special groups, recourse will finally be had to certain general propositions whose working is supposed to promote the greatest good of the greatest number, and thus to serve the public interest. Like most formulations of human welfare principles, they are cast in general terms and are qualitative rather than quantitative in character.

Pursuing this quest, doubtless considerable agreement would be accorded the proposition that the public interest in a transportation system could be defined in the following terms: a vital interest in a transport industry capable of rendering the quantity of service demanded by the nation, according to the standards of comfort and convenience generally obtaining in the era under consideration; an interest that the service should be performed as economically as possible consistent with the maintenance of good wages and working conditions for transport employes, fair returns to the capital required, and the assumption of the industry's proper share of the tax burdens; an interest that the total cost of the service should be met by the contributions of the users, and should be apportioned among them according to rough approximations to equity; and an interest in maintaining a constant improvement in technology and practices, somewhat modified by a desire to achieve economic stability and security. Inasmuch as the prosecution of some

of these objectives is likely to interfere more or less with the attainment of others, it becomes the main task of management to promote a reasonably satisfactory balance between and among them.

If this can be accepted as a crude though workable hypothesis of the public interest in railway transportation, then the question may be restated thus: Is government ownership and management of the railroads, or private enterprise therein, under existing and prospective economic and political conditions in this country, the more likely to produce a management of the railroads that will attain a reasonably satisfactory balancing of these objectives? The answer to this question requires a careful judgment concerning all the probabilities, and the preliminary analysis of so complex a problem is necessarily a long and intricate one. Consideration must be given to the results of private railroading in the United States, its present state of financial weakness, what may reasonably be expected of it in the future, and what would eventuate if the carriers should now be turned over to the government.

This fact, together with the space limitations of an article of this character, compels submission of a series of concluding propositions regarding this phase of the question, the arguable basis for which may be found elsewhere.

PUBLIC AND PRIVATE OWNERSHIP COMPARED

1. Private enterprise has produced a reasonably high standard of rail transport in the United States, and has at its command the technical skill and knowledge to effectuate vast improvements in its service capacity. Provided its credit can be restored so that needed supplies of capital will be forthcoming, there is ample reason to expect that it will be adequate to the future needs of this country, and that government ownership and operation could do no more, and might easily do less.

2. At the present juncture, economy in railroad operation is a pressing necessity. Its attainment depends mainly upon reducing the annual capital costs of the system, and to a greater degree upon lowering the operating expenses. The former will accrue chiefly through financial reorganization of many carriers, now in process of effectuation; the latter depends largely upon cooperative economies resulting from consolidation, and from the gradual process of technological development.

The alleged savings in capital cost, attributed by advocates of government ownership to the lower interest rate on government funds, are likely to prove disappointing if the government acquires the roads at somewhere near the actual investment cost of the properties and pays for them with government fixed-interest-bearing bonds. Hence, the probability of any very substantial reduction in annual capital cost by the transfer of ownership is rather small, and might very readily be offset by increased costs in other directions.

Consolidation of ownership will not of itself yield important economies; rather, they will be effected by the operating reorganizations which consolidation facilitates. To the working out of such economies considerable re-

sistance is offered by organized railway labor, by organized communities of shippers, and possibly by other organized special interests as well. The potential economies are very substantial; and they *can* be realized either under private ownership or under government ownership, provided the managing group is permitted to seek them. The obstacles to that effort pertain to both systems of enterprise. Government enterprise is adjudged to contain the probability of increased costs of operation by reason of political interference with management; it seems to be well-nigh impossible to prevent this when the political agency, namely the government, is owner and entrepreneur.

With respect, then, to this phase of the problem, there is reason for preferring the private enterprise system under present conditions.

3. Unless substantial economies were realized in practice, government management of the railroads could effect general reductions in rates only at the expense of taxpayers. Rates on certain large classes of products could be reduced, while others would be advanced. The possibility of extensive discrimination of this character, effected through political channels and for political reasons, must not be omitted from the calculation. It seems probable that government policy would produce somewhat greater rigidity in rate structures than has been the case under regulated private railroads. Although railroad rates today exhibit difficult problems of adjustment to changed transport conditions, government ownership and operation do not seem likely to offer any significant contribution to their solution.

4. It is generally admitted that private railroads in the United States have displayed a sustained capacity for betterment of services and methods of operation. Some dissatisfaction has been voiced within the past few years concerning the character of the improvements; it has been suggested that the private managements did not sufficiently anticipate or prepare for imminent changes. Whatever justification such claims may possess, it does not point to the abandonment of private enterprise in railroads as a consequence. The greater reliance upon competition and the profit-loss system that usually accompanies private ownership seems better calculated to sustain the incentives to continued betterment than do alternative motives which government ownership can develop.

5. The political potentialities ramify throughout several phases of the government-private-ownership issue, are especially difficult for government proprietary ventures in democratic countries, and are acknowledged by both proponents and opponents of government in business. Some question whether these political dangers of government undertakings are worse than the financial evils under private management; others believe that government ventures may be so organized under public trusts as to avoid the major part of the political hazards and thus combine the merits of private enterprise with government ownership and operation.

Government affairs are not free from financial abuses, many of which are similar to those encountered in private business. Furthermore, it may be suggested that it is probably an easier task to control by regulation the financial excesses of private enterprise than to build adequate defenses against the political excesses of the government regime. The public trust,

though not a new device, is untried on any such scale as contemplated herein. Analysis of the proposal does not reveal any strong resistance to political forces, save as a strong tradition against political management of government proprietary activities could be developed to support that form of organization. The materials for the construction of that tradition do not seem abundant in American life today.

PRESERVATION OF PRIVATE ENTERPRISE

However much the public may prefer the private enterprise system in railroad transportation, the question arises from time to time, whether the force of events may not be driving the carriers into government ownership.

That question has confronted the nation insistently for the last five years, and it has not yet been answered.

Eight years of severe business depression—with spells of partial recovery and deeper relapse—together with intensified competition from other forms of transport, have left the railroads in a condition of financial weakness that threatens to become chronic. Roughly one-third of the mileage is in receivership; another third is marginal, but includes roads that may be compelled to join the lowest third; and less than one-third remains financially strong and solvent.

It is conceivable, of course, that the railroads may drag along indefinitely as one of the nation's industrial cripples, financially speaking, lacking the vitality to rehabilitate themselves and regain their proper position in the national economy. But railroad transportation still sustains so important a relation to commerce and national defense that such a condition is not likely long to be tolerated without some concerted effort to change it. Unless private enterprise in railroads can be rehabilitated, it is clearly possible that many who now prefer that system may be impelled to make a virtue of necessity and accept the alternative of government ownership.

The drastic declines in the revenue and income of the rail carriers during the last twelve months have again focused attention upon the crisis in rail affairs and elicited numerous programs of remedial action, containing proposals repeatedly submitted in the past.

While it may not honestly be said that the preservation of a strong system of private railways depends upon any single happening, nevertheless certain of the proposals bear more importantly upon that end than do others. A few general observations are offered as likely to assist in a critical appraisal of such programs.

VARIOUS PROPOSALS

1. Without intending any reflection upon the capacity of those who manage the railways, it is very probable that they alone cannot effect the rehabilitation of private railway enterprise.

The troubles that beset the railroads are largely traceable to the cumulative effects of long continued public policies that have borne heavily upon the railroads, while according more freedom of action and more government assistance to their competitors. Inasmuch as American business and the

general public have acquiesed in or favored that policy of inequality before the law, they may with propriety be asked to shoulder some of the responsibility for the results, by assisting the railroads to find the remedy.

2. The railroad problem cannot be solved by recourse to small measures that may add a few millions to revenues or subtract them from expenses. The restoration of railroad credit is a matter of adding some two or three hundred million dollars, in the aggregate, to the total incomes available to railway investors in the 1936-37 period.

3. Emphasis upon the necessity of general business recovery as the prime factor in the railroad picture would tend to identify the railroad problem with that of general business recovery; and the solution of rail difficulties would then depend upon the natural processes of business recovery or upon such policies designed to promote that end as business and the government might adopt.

It may be admitted that general business revival is an essential factor in railroad recovery, but it would be a grave mistake to assume that such general recovery will take place rapidly enough, or that the railroads will sufficiently participate in it, that this alone will guarantee the continuance of private enterprise in railroading. Depression is not the only cause of the adverse financial condition, and its removal will not insure restoration of railroad financial health.

4. Much disposition exists to regard extensive and drastic financial reorganization of the carriers as the principal route to their salvation as private capitalistic enterprise. For a number of roads (possibly as much as one-half of the present railway mileage) that proceeding patently is necessary; and that responsibility rests largely upon the investors, the managements, and the agencies of government directly concerned therewith. But it also requires emphasis that receivership and financial reorganization, though essential for such roads, is by no means a cure-all for the financial ills. It is but a preliminary step to the restoration of rail credit, which in the main depends upon the restoration of earning power.

With so large a part of the railroad mileage either not making operating expenses or just barely covering such, it should be clear that financial reorganization cannot take place on any soundly conceived basis, and would afford little immediate assistance even if consummated quickly. The public should not be lured into easy acceptance of the belief that if railroad investors will but recognize realities and accept drastic reductions in their bonds, then all again will be well with the railroads. This is simply a delusion.

5. Others emphasize the importance of coordination, and consolidation projects, as calculated to effect very substantial reductions in the expenses of the carriers, by abandonment of little-used facilities, and the operating reorganization of the carriers. This solution is mentioned almost as frequently as is financial reorganization; therefore it occupies a prominent place among remedial proposals.

There exists fair agreement that if the managements of the carriers are permitted to effectuate well-conceived plans of consolidation, such plans can

produce economies of such magnitude that they will make a significant addition to the incomes available to railway investors, provided they are not canceled out by demands for wage increases and rate reductions before the roads get back on their feet. The opposition of organized railway labor, communities, and shippers, is likely to delay the realization of such economies. Extensive consolidation of the railroads cannot be regarded as other than a long-term remedy, whose potential benefits would be realized only over a term of years.

6. Others find an important source of railroad difficulties in the unequal degree of regulation that has existed as between the railroads and their competitors, the unequal burdens imposed upon the railroads as compared with other forms of transport, and the much greater assistance given to waterways, highways, and airways than has been accorded to the rail carriers. They believe that correction of this inequality is an indispensable step in restoring investor confidence in the rails. To a considerable degree this margin of inequality has been reduced by laws passed during the last three years, providing for further regulation of interstate highway carriers, waterway carriers, and airline operators; but the difference in the assistance given by government to the railroad competitors remains largely unchanged. The situation does require correction; but the revision of public policy will require considerable time, and the benefits that might accrue therefrom to the rail carriers will be difficult to measure, and will not be immediate.

7. There are schemes for the reorganization of the government machinery set up to administer regulation and to promote the development of some form of transportation. Such plans may have value, provided a clear idea obtains concerning the changes in policy that are desired. Reorganization of the machinery of government means little to the salvation of railroads or other forms of transportation unless some definite change in public policy is determined upon, and a corresponding change in government organization is necessary to effectuate that change in policy.

8. Financial reorganization, and consolidation of the railroads, probably can make a larger contribution of a determinate character to the restoration of private railway credit — upon which a healthy private enterprise system depends—than other proposals advanced; but both require considerable time for their working, and likewise necessitate changes in legislation and administration. In the meantime a large number of carriers are in desperate straits and require immediate additions to revenues and incomes in order to carry on operations and maintain their properties at all adequately.

This short-run assistance is commonly viewed as government loans at low rates of interest. While such can be justified when expended for self-liquidation projects, such as the purchase of new equipment, or as to an extreme measure to prevent collapse of investment institutions, as in 1932, the employment of this method to pay unearned wages, taxes, and interest, is quite without economic justification, and only serves to thrust the roads further into the morass of debt, which is already one of their principal burdens.

Yet the need of immediate assistance is great. The carriers attempted

first to meet that problem by seeking commission sanction for increased rates; they secured this in part only, and that proved inadequate to their needs. They next sought to decrease expenses by a general reduction in wage rates; this was contrary to the general policy of the present administration, and the roads felt constrained to yield to the government negative.

The public should be prepared soberly to face the issue whether it may not be desirable under the circumstances to accord to railroads grants of financial assistance, limited in amounts, likewise limited in time, based upon their expenditures for maintenance of way and structures. Obviously such an expedient should not be employed to save them from needed financial reorganization, or to sanction a postponement of cooperation to effect necessary operating economies, or to encourage the wasteful use of public funds. The expedient will require the constitution of proper safeguards against such contingencies. Whatever objections are raised against such an expedient—and they will be offered—the proposal should be reasonably debated, with a clear realization of the alternatives of policy and expedient. Such a moderate policy of government assistance would probably be less costly to the nation than a continuation of private railroad enterprise in weakened financial condition, or a gradual lapse of such properties into government ownership.

GOVERNMENT OWNERSHIP OF RAILROADS AS AFFECTING SHIPPERS

(An article by Raynard F. Bohman in the Annals of the American Academy of Political and Social Science, volume 187, pages 126-132, September, 1936.)

The present chaotic railroad situation in the United States is truly the most paradoxical in the history of any industry in this country. In fact, the railroad problem is the greatest single economic problem confronting the country today. The present situation of the railroads is such that government ownership is an imminent danger. The drift toward government ownership is an active, virile force that has made appreciable headway, and its adoption as a national policy is entirely within the realm of possibility — yet the American people remain apathetic.

It is true that outside of the activities of certain labor leaders and political demagogues there is no strong movement or active sentiment in favor of government ownership of the railroads. Its danger lies in policies tending to destroy the earning capacity of the railroads and in piling up unwarranted expenses by legislative enactment which adds hundreds of millions of dollars annually to the cost of operation. If this continues, it will not be long before it will be necessary for the government to assume ownership and operation of the railroads.

The railroads bear scars which will take many years to heal. That they have been able to struggle through the depression is, to say the least, phenominal. Operating costs are lower, cooperation is greater, morale is excellent, and the service is the best the world has ever known, all of which is due to an alert management. But, in view of pending problems, the question

is pertinent whether the railroads will be damaged again in spite of general economic recovery. The immediate future has seldom been so clouded as at present. It may be well, therefore, to revive some of the things that indicate the danger of the adoption of a policy that would be intolerable to the shippers and the public generally.

There are two groups that are primarily responsible for the present plight of the railroads. These two groups are railway labor and the shippers. It is true that, like almost every other industry, the railroads are suffering from the ravages of the depression. However, if during this period, railway labor had cooperated with railway management regarding wages and working conditions, and if the shippers, instead of being bent upon discrediting private management of railways and promoting unfair competition with them for their own selfish purposes, had been a little more railroad-minded and supported them with their traffic, we would not today have approximately 30 per cent of the railway mileage in the hands of receivers, nor would we have a railroad problem.

Railway labor, not satisfied with receiving an average income which is almost 50 per cent greater than the average income of all classes of persons, insists upon the passage by Congress of so-called "make-work" bills, the cost of which, if enacted, would increase operating expenses of the railroads by over a billion dollars annually. Railway labor succeeded in getting a pension bill passed by Congress which it is estimated will cost the railroads sixty million dollars the first year, and will increase to two hundred million dollars a year.

Other measures which are being promoted by railway labor include a six-hour day bill, a train limit bill, a full crew bill, an hours of service bill, a track and bridge inspection bill, a signal device bill, and a train dispatching bill. The enactment of these bills would cause wholesale bankruptcy of the railroads, and a national calamity would surely follow in its wake. The truth of this statement is obvious when viewed in the light of the records. The records show that the railroads during the three years ending with 1934 earned an annual average of only $421,000,000 in excess of their operating expenses and taxes. Other things being equal, the enactment of these indefensible bills would increase operating expenses by over one billion dollars, or nearly six hundred million dollars in excess of the railroads' annual net operating income.

Where the labor leaders expect the railroads to get the money to pay such enormous increase in operating expenses is beyond comprehension. Surely they do not think the money could be raised by increasing freight rates. If they do, they will learn to their sorrow that they are mistaken. History shows that every increase in freight rates results in further localization of industry; competitive relationships are disrupted, and in the end the railroads have less business to handle, and fewer men are employed by them. Such a scheme therefore defeats itself.

In times like these the tendency should be the other way. The only way to make work on the railroads is to reduce costs and freight rates so as to allow traffic to move freely in all directions. This country grew up under a

scheme of ratemaking that promoted industry; people everywhere were enabled and encouraged to trade with the people everywhere else throughout the national domain. High freight rates, however, result in the opposite; so we have then the danger of further industrial localization through further increases in rates. Therefore, that method must be eliminated as a source of additional revenue.

Railroad employes must realize that they are partners with the owners and management of the railroad industry; and while they are entitled to every consideration along with capital and the obligation to the public, they must also assume their share of the responsibility of providing an efficient and economical service usable and attractive to the public. Only upon such an acceptance of duty can the railroads become a healthy and prosperous enterprise. Failure on the part of labor to realize this fact will cause the collapse of the industry, to the detriment of labor itself.

Unquestionably, the services of the railroads are an integral and indispensable part of our economic system. The soundness or the weakness of their securities is of vital concern to banks, insurance companies, and innumerable individual investors. Their tax payments affect the financial problems of federal, state, and municipal governments. The ravages of a long-continued depression have placed these carriers in serious financial straits.

This is no time, therefore, to add further to the mounting costs of operation which the railroads face. What the railroads require now is a rest from harmful legislation. The recent strength of rails in the stock market indicates the confidence which investors have in the industry. But unwise laws and excessive regulation by governmental agencies may impair that confidence and make the problems of the immediate future even more troublesome than those of the immediate past.

From the point of view of the shippers, there is no gainsaying the fact that the railroads are the backbone of the transportation system; and as this country has not developed to the point where it can afford to put its railroads into a strait-jacket of government ownership, it behooves the shippers to be as helpful as they can. Wholehearted support of the railroads by shippers in a material way will go a long way toward bringing about a new lease of life by the railroad industry. An additional increase of as little as 15 per cent in the tonnage of the railroads will enable them to show a profit.

Instead of supporting the railroads, however, a large number of shippers oppose legitimate attempts of railroad management to discontinue unprofitable branch lines, yet they encourage and in fact foster unfair competition with the railroads for their own selfish purposes.

Another group of shippers are advocating wasteful expenditures on waterways by the government, which result in unfair competition with the railroads. The present railroad facilities are more than adequate to provide for everything which the present and proposed waterways can accomplish.

There should be a curtailment of these subsidies because they have not proved effective, and adequate tolls should be charged for the use of the waterways already established. Sentiment rather than common sense makes

the government keep up these economically unsound subsidies. Unless the shippers awaken soon to the dangers of the situation they are creating, they will awaken to them too late.

From the shipper's point of view, government ownership would mean increased cost of operation, which would be reflected in higher charges or higher taxes. There is no question that the inefficiency of the government in the operation of the railroads would greatly increase the expenses. The shippers know from experience during the war period and immediately thereafter that government operation spells disaster to service as it is understood today.

Another development might be the so-called "postage stamp shipping." This would mean that a shipment would be dropped into the hopper of transportation and handled after the fashion of parcel post. Today the shipper is given a receipted bill of lading for every shipment, and because of the railroads' waybill system, the shipper can keep in touch with the movement of the shipment right through to ultimate destination. Under present hand-to-mouth buying, it is essential at times to keep in touch with a shipment. In these days of small inventories, fast freight service is indispensable, and it therefore requires close contact with the movement of goods to permit accurate scheduling of production. The shippers would not wish to forego that service. Under the "postage stamp shipping" scheme, one can well imagine what would happen.

Then, too, government ownership would subject the railroads to administrative methods which, with all respect to able and conscientious men in public office, are never conducive to efficient service and economical administration. It would inevitably inject into the administration of the railroads a substantial measure of political influence. Would that be desirable from the standpoint of the shipper? And would not freight rates soon become the football of politics?

Under our present political system each member of Congress feels obligated to secure for his constituents and the district he represents every possible appropriation of federal funds. This might easily lead to unwise and uneconomical expenditures in terminals and facilities. By the addition of one million railroad employes to the present federal roll, a new field for political patronage would be created. A powerful employe bloc is a reasonable expectation, and the methods of such a large group to advance its particular interests would probably be adopted by those engaged in other governmental activities. Political pressure and influence could hardly be detached from matters affecting wages and working conditions.

At times under our present setup, unsuccessful efforts have been exerted to compel rate adjustments through political pressure in favor of certain localities or groups.

Transportation and commercial conditions vary widely in the different sections of the country. Problems of management likewise are not uniform. The close contact and intimate knowledge so essential to the efficient administration of the many separate systems would, under government ownership, be subordinate to the power exercised by a central authority.

Above all, the establishment of one railroad system would obviate competition. One system would mean the removal of that element of competition which has always been the incentive to better service in every branch of business activity. It is quite probable that a government-owned railroad system would not long countenance competition from other agencies such as motor vehicles and steamship lines. In fact, it is axiomatic that once the government enters a business it must occupy that field alone—no one can compete with it, and the result is a paralyzing monopoly.

Before we venture into the un-American experiment of government ownership of railroads on a wholesale scale, it might be well to view the results of government ownership elsewhere, and at the same time review the results of government ownership and operation in this country.

The Federal Barge Line on the Mississippi River, which is government-owned and operated, has by all true accounting methods piled up a deficit of many millions of dollars during its short life. The Alaskan Railroad, which is only 471 miles long and is owned and operated by the government, has in the past ten years incurred a deficit of nine million dollars.

The government-owned Panama Railroad Steamship line is another glaring example of deficits piled up under government ownership. In the last annual report of the Governor of the Panama Canal, it was shown that for the last fiscal year the net deficit from operations was $357,633.82.

During the World War the railroads of the United States were taken over by the government and operated as a government facility. The federal control lasted for twenty-six months, and during that time the deficit was $1,087,358,992.31. This tremendous deficit could be wiped out in only one way, namely, taxation. Thus it will be seen that government operation of railroads was unprofitable. Moreover, it would be difficult to find a shipper who has a good word to say for the brand of service which obtained under government operation during the war. The majority of shippers will never forget the difficulties they experienced under federal control, or the poor brand of service which was rendered.

The record of government ownership and operation of railroads in every country that has it is a record of decreased efficiency, increased expenses, lessened initiative, political interference, and economic waste. Canada is the latest outstanding example. For the fifteen years of its existence, the Canadian National Railway has never in any single year earned a full amount of interest due on its indebtedness, including interest on government advances. For the full fifteen-year period, including 1934, the aggregate deficit after fixed charges was $905,190,638.75, or an average annual deficit of $60,346,042.58.

During the same period, the privately-owned-and-operated Canadian Pacific earned $436,482,319.19 over and above its interest and fixed charges. Since the inception of the company in the eighties, it has paid out in taxes $128,999,908.92; has paid interest of $442,205,977.76; and has paid nearly three quarters of a billion dollars in dividends. Here we have a striking contrast between the profitably operated Canadian Pacific and the unprofitable Canadian National. The principal reason is that much of the mileage

now comprising the Canadian National was constructed beyond the needs of the country. The continuing deficits of the government-owned line resulted in an inquiry into the railroad situation in 1931.

The royal commission which investigated the "mess" reported that unless some way to do something about it could be found, the financial stability of the Dominion of Canada itself might be threatened.

The thing that stands out in the report is the fact that through government ownership uneconomic activities were maintained on an enormous scale. What assurance is there that under government ownership of the American railroads, the same experience would not be repeated in this country on an even more costly and gigantic scale?

Not only would the taxpayers have to shoulder a huge railroad deficit if the government should assume railroad ownership, but about twenty-four billion dollars would be added to the already enormous national debt as the price the government would have to pay to take over the railroads by any lawful means, plus an annual loss of hundreds of millions of dollars in taxes.

Furthermore, under government ownership the railroads would get free postal service. This no doubt would run into large figures, also, and would further increase the deficits in the post office department. In short, there seems to be no end to the deficits that would be piled up under government ownership, which would have to be met by the taxpayers.

Obviously, this is a subject of far-reaching ramifications. It concerns primarily the greatest and most important industry of our country. The railroads cannot be considered only as an agency for the transportation of passengers and property. They represent one of the largest customers of the basic industries of the country. Their average annual expenditures for fuel, materials, and supplies in the years 1925 to 1929 inclusive were roughly $2,175,000,000. In normal years their purchases of bituminous coal amounted to 23 per cent of our national production. The proportion of the fuel oil output taken by the railroads approximated 19 per cent. They purchased about 16 per cent of our forest products, and under average conditions they utilized approximately 17 per cent of the total iron and steel output of the country. The number of railroad employes in the five-year period 1925 to 1929 averaged approximately 1,740,000, and the average annual payroll for those years was $2,930,000,000.

Due to the ravages of the depression, these averages for the year ended December 31, 1935, show declines of 70 per cent in purchases, 43 per cent in the number of employes, and 44 per cent in payroll expenditures.

However, in 1936 at the first sign of increased revenue, the railroads again stepped into the market and placed fairly large orders for new equipment. The money the railroads are spending will soon be distributed throughout the business world. That will put men to work and enable the railroads to meet bills that are pressing for payment.

It must be plain that prosperity in the railroad industry has a heartening effect upon general business conditions. The one thing that held back prosperity was the lack of business in the durable-goods industries, which was chiefly due to the fact that the railroads were not buying. It can readily be

seen, therefore, that if the labor leaders, the politicians, and the government really wish to stimulate railroad buying and thereby create more jobs, they had better wake up to the fact that to add further to railroad operating costs by legislative enactment will prolong the depression.

Railroad buying, with all the beneficial effects that it would cause, will continue unless arrested by a recession of traffic or by the adoption of more government policies increasing railroad operating expenses. The restoration of full prosperity in this country requires the abandonment of policies which undermine the earning capacity of the railroads. The sooner labor, the politicians, and business realize this, the better it will be for business.

On the other hand, the importance of the railroad industry as a purchaser of the basic industries of the country is evidence of the power which the government, as the owner of railroads, would have in dictating prices, profits, labor relations, working conditions, and wages, with respect to the equipment, the materials, and the fuel purchased for the railroads. The same companies that manufacture and produce for the railroads also sell their products to other industries. Would it be possible for these manufacturers and producers to maintain different prices and different labor relations, working conditions, and wages, when producing for the railroads, from those maintained when producing for other industries? Would not the labor relations, the working conditions, and the wages established through political influence for railroad employes determine the labor relations, the working conditions, and the wages for other industries?

It must be obvious that the question whether the ownership of the railroads is to rest in governmental or private hands is crucial for the future of private industries in every field of economic activity in this country. Apparently the business interests, labor, and the public fail to realize that government ownership of the railroads would be the first trek in the cause of state socialism which would finally engulf all industries of the country; that it would mean control by politicians and the growth of the "vote-for-me-and-I-will-give-you-a-job" patronage system. Certainly it must be obvious that the result would be inefficiency and political mismanagement. Individual enterprise would be stifled.

Under government ownership, partisanship, logrolling, and politics would be the inseparable accompaniments of administration. To embrace this un-American experiment would increase the cost of service and decrease our national efficiency, and thus undermine our democracy and destroy the fundamentals upon which America has become great. Above all, we would have abandoned all that we have developed over a period of one hundred and sixty years as a land of opportunity, freedom, and progress hitherto unparalleled in political history. This would not be progressive, for it would not be progress. It would be destruction.

It would seem, therefore, that all those who abhor the thoughts of state socialism may well view the paradox with alarm.

THE CASE FOR PRIVATE OWNERSHIP AND OPERATION OF RAILROADS IN THE UNITED STATES

(An article by J. J. Pelley in the Annals of the American Academy of Political and Social Science, volume 187, pages 120-125, September, 1936.)

I have been asked to discuss, from the viewpoint of railroad management, the case against government ownership and operation of railroads in the United States. I prefer to discuss, instead, the reasons why private ownership and operation should be continued in this country; for, after all, the best case against government ownership and political management is the record of progress and achievement under private ownership and business management.

That record is clear, at least to those who can look beneath the surface and realize the genuine accomplishments in truly cheap and efficient transportation by private railroad operation in the United States. The burden of proof would seem to be on those who propose to change the system, and that burden should be discharged only by a showing that government operation might reasonably be expected to produce better transportation at less cost. Even if that should be made to appear as likely, the burden of proof should then be on the proponents to show that this presumptive gain in transportation efficiency would be sufficient to outweigh the dangers to the body politic inherent in turning over an industry such as the railroads to political management.

I would not be understood as meaning that the political approach and procedure are necessarily inferior to the business. It is just that they are different. In many departments of life the political procedure is necessary, even desirable. Running railroads is not one of those departments. A railroad can be run politically, of course, but there is nothing in the record, here or abroad, to indicate that it can be run better that way than it can by business principles, applied by business men.

This fact is indirectly conceded in most of the advocacy of government ownership by the protestation that such ownership, through the device of an operating corporation, could manage to escape political domination and control. The proposal is interesting in its half-conscious recognition of the value of business methods and the dangers of political domination, but again there is nothing in the record, here or abroad, and nothing in our general knowledge of the nature of human beings, to sustain the wishful thought that we can have political ownership and control and yet permanently enjoy the conceded benefits of private control.

Consider the accomplishments of our present rail system. There has not been a general car shortage in this country in more than a dozen years. In the same dozen years we have had a great boom and a great depression, and in both boom and depression the railroad plant has been adequate to move the business offered. It is more than adequate now. In that same dozen years our railroads have speeded up the average movement of freight trains by more than 40 per cent. They have made improvements in passenger service which are somewhat the talk of the country. They have reduced the cost

of doing business through cooperation and coordination and improved methods and improved plant and great investment in better facilities. The operating cost of hauling one thousand tons of freight a mile was $10.78 in 1921. Last year it was $6.75. Freight rates have been reduced during that time from an average of more than one and one-fourth cents per ton per mile to an average of something less than one cent per ton per mile; passenger rates, from an average of more than three cents a mile to less than two cents a mile.

And all that has been done, not by reducing wages, not by skimping on the service, but by simple improvements in methods and plant. They are so simple, there are so many of them, and many of them are so undramatic, that people have taken them for granted like the air we breathe; yet the advance has been so great that to look back a dozen years shows changes that are startling. This result is due to better methods, greater investment in improved plant, persistent and intelligent research in every detail of railroad practice, and a whole host of inconspicuous and undramatic improvements in the ways of doing the day's job better.

That is one reason why I prefer private ownership and operation of railroads in the United States. It works.

But there are those who feel that government ownership would produce better service or lower costs, or both. I have not found anything in the record to sustain such a belief. Narrowly exact comparisons of rates or costs in different countries are difficult and inconclusive, of course, because of the variations in physical and traffic conditions and in wage levels, working conditions, and standards of living, besides the fluctuations in currencies and exchange. But without attempting such exact comparisons, it is apparent from any study of the reports that the privately-operated railroads of the United States do not suffer from comparison with the government-operated railroads elsewhere.

The convinced advocate of government ownership as a positive benefit in and of itself may, perhaps, advance the excellent service of the United States post office as a reason to believe that the government could and would operate our rail transportation systems successfully.

The post office is operated, and well operated, as a social service, reaching the most remote parts of the country. In serving the more remote section, the post office necessarily operates at a loss. On the other hand, the postal service is a government-protected monopoly in its field. Other transportation agencies are forbidden by law to invade the portions of that field in which profitable operation is possible.

In spite of this protection against competition, and even with the assistance of a system of government bookkeeping which, for example, does not make any charge against the post office for the construction of post office buildings, the operating ratio of the post office department is chronically above 100 per cent. During the past seven years, the ratio of expenditures to receipts has ranged from a low 107.5 per cent in 1934 to a high of 134.9 per cent in 1932. A weighted average for the seven years is 116.9 per cent.

During the same seven years, the American railroad system as a whole had an average operating ratio of 74.4 per cent. Had the railroads operated

at the same ratio of expense as the postal service during those years, the operating expenses of class 1 railroads of the United States would have been greater than they actually were by $12,196,329,000, an average increase of $1,742,333,000 per year, or 57 per cent above the actual average of railway operating expenses.

Conceding that the post office is well operated, it is apparent that if the railroads of the United States are operated at the same ratio of expenses as the post office, someone, whether shippers, travelers, or taxpayers, would have to meet a 57 per cent increase in railway transportation costs.

And so I prefer private ownership and operation because it has a record of efficiency, economy, and service better than there is any reason to expect from government ownership and political operation in the United States.

But there are those who, admitting the superiority of private management in actual operation, yet feel that for reasons of financial management, government ownership is to be preferred. The argument runs familiarly thus: "The American railroad operator is all right, but the railroad banker and financier have laid upon him such burdens as make private ownership impossible and government ownership inevitable."

Regardless of who owns and operates the railroads, the charge for the capital invested in them exists and must be borne somewhere, somehow, by someone. There is a somewhat common belief that in earlier days railroads were over-built and unduly duplicated. The impression is greatly exaggerated; but if it were not, the exuberance with which public authority has engaged in building duplicate and unnecessary facilities of transportation does not encourage a belief that political determination of when, where, and how much to spend will be wiser and more prudent than business decision.

Nor does our record of public borrowings to finance the building of new transportation where adequate facilities already exist, support the belief that in matters of debt government will be more prudent than the railroads have been. Enjoying the right to assess and collect taxes on the property and the income of the citizen, government may find it less difficult to retire debt; but certainly government—and I refer, of course, to no particular unit of government and no particular time, but to governments in general at almost all times—has shown no great aversion to contracting debt.

Railroad debt was not incurred just to be borrowing money. There was a reason for such debt, and a need. The reason was the fact that the rail traffic of the country consistently doubled in volume every fifteen years, on the average, from the beginning of American railway history up to the post-war period. That meant that the capacity of the rail plant had to be increased in the same geometric ratio, and that, in turn, made necessary new financing, new money, if the railroads were to keep up with the needs of the country. That basic fact, so often overlooked, is why railroads sold bonds. Money was not forced on them by bankers seeking profits. They had to have money to double their plant capacity every fifteen years, on the average. They had to have money to make these improvements in plant which enabled them to achieve the operating economy required to cope with a rate level which declined almost constantly from the beginning of recorded statistics

until the World War period, with a wage level that was rising steadily, and with a tax burden which multiplied itself.

Before the World War, the railroads needed continually more capital to meet the need for expansion and improvement; after the war, they had to spend heavily to bring their plant up to the standard needed for adequate service, efficiently and economically rendered. And, even in the light of hindsight, it is clear that this should have been done, that the expenditures of that period have justified themselves in helping to produce better service at lower cost.

At the close of the war period the railroads owed the government $1,080,000,000. All but $38,000,000 of this debt has been repaid. In addition, an incomplete check shows that in the same general period nearly $600,000,000 of bonds were paid off and retired, while more than twice that amount of debt represented by equipment trust obligations was paid off—all without refunding operations. That is not a bad record of debt payment, especially as railroads are not allowed to enjoy boom profits of the sort which would have made possible still larger debt retirement.

Railroad fixed charges in the depression of the nineties amounted to 29.6 per cent of revenue, a burden heavier by almost 50 per cent than in the present depression; and yet railroads recovered from that depression and reached, in 1906, the peak of their credit, as measured by the average price of railroad stocks as compared with those of other industries. At that peak, fixed charges consumed 19.6 per cent of railroad revenue. The relative burden of fixed charges continued to decline until, in 1929, the ratio of fixed charges to revenue was 11.4 per cent. It was at this time, and after the large expenditures on additions and betterments to the railroad plant which some critics after the event now say was improvident, that Mr. Joseph B. Eastman, of the Interstate Commerce Commission, said on December 9, 1929:

"We are now dealing with a general railroad situation which in many respects is more satisfactory than any which has been experienced in the past . . . . So far as service, operating efficiency in general, and ability to finance upon reasonable terms are concerned, the status of the railroads has been improving rapidly and steadily during the past few years and now appears to be better than ever before. . . . . There are now, it seems to me, only a very few weak lines."

On December 2, 1935, Mr. Eastman said: "Railroad credit is now in a very sorry state. The roads are heavily burdened with debt and a good many of them have been unable to bear up under the load and are now in receivership or bankruptcy."

Between those dates, fixed charges dropped more than forty million dollars. Railroad revenues had gone down sharply, however, and the relative burden had gone up. But even in 1935 the ratio of fixed charges was 19.6 per cent, precisely the same as in 1906. That is a clear indication that the difference in credit standing of the industry in the two periods was due to something other than increase in the burden of debt.

During the inflation days of the 1920's, railroads, as well as other industries, had need to build up reserves beyond anything considered normal

or necessary in earlier times, to carry them safely through the abnormal depression which was to come, when railroad revenues were to drop 50 per cent—a drop more than twice as great as in any previous depression, and greater than there is any reason to anticipate in the future.

Why, then, did not the railroads build up these abnormally large reserves in boom times? The answer is found in public policies as to transportation. The public policy has long been not to allow railroads in good times, or times of inflation, to make earnings of the sort which could have made possible the accumulation of reserves on the scale which depression experience shows would have been desirable. In 1927, in the O'Fallon decision, the Interstate Commerce Commission denied the carriers an opportunity to participate in the inflation then prevalent, but consoled them with assurance that they would be protected from the consequence of deflation. The conscious, or subconscious, application of such a public policy has resulted in a long series of actions and orders with the effect of keeping the railroads from earning "too much" in good times. Unfortunately, orders of the commission are not so effective in keeping them from earning too little in hard times, particularly in view of the increased "inevitable" competition from other agencies of transportation.

Public policy bears on the railroads in three ways. Regulation has been so applied as to limit the opportunity to accumulate surplus earnings. Taxation, meanwhile, has been mounting. And huge public subsidies by which a large part of the cost of so-called cheap transportation by water and by highway is transferred from the shipper to the taxpayer, have acted to lessen the volume of traffic. This diversion of tonnage has even gone to the extent that the government operates its own inland waterways corporation.

Government ownership and operation of railroads is not the remedy for these conditions. Its only possible saving would be the chance of reducing fixed charges either by some process of forced scaling or reduction, or by buying the railroads with government bonds presumably bearing a rate of interest lower than the average now paid by the privately-owned railroads.

There are large "ifs" in both suppositions, however. Forced reductions would run afoul of the constitution. Exchange of low-yield securities might be welcomed by those whose holdings are of small or uncertain value, but the holders of the securities of solvent roads, which are strongly in the majority in spite of impression to the contrary, would no doubt object successfully to an exchange of their holdings for securities of lower yield. On the other hand, there is no assurance that even the government of the United States could maintain low rates of interest if it had to sell in the market for cash enough securities to pay for the railroads of this country, or any considerable part of them.

The true policy for sound transportation—and that is what we all seek—is not government ownership and political operation. It is public ownership through wide distribution of securities, with business operation, under an enlightened government policy which will allow the roads in good times to make surplus earnings as other industries do; which will stop the uneconomic diversion of traffic through subsidies to other means of transport; and

which will call a halt on legislative action to increase the operating cost of railroads, or to reduce their revenues for the supposed benefit of other elements of the community.

With that sort of policy—full and fair opportunity for our railroads to render to users, workers, and owners the service of which they are capable—there would be no discussion of government ownership and operation as either desirable in itself or inevitable because of circumstances; at least not by those who are interested in results rather than theories.

WHAT THE RAILROADS MEAN TO AMERICA

(An article by Robert S. Henry in "American Railroads", the Thirteenth Annual Debate Handbook, 1939-1940, edited by Bower Aly, volume 1, pages 37-42.)

This is not so much about government ownership or private ownership of railroads as it is about railroads themselves—what they are, and what they do, and what they mean to America. Railroad tracks are steel super-highways on which whole trains of cars can be pulled at high speed by single power units. Because flanged wheels on the rails make trains of cars follow behind locomotives, railroads combine the convenience and the flexibility of separately loaded and unloaded cars with the economy of mass movement between stations in trains. Because it goes on day after day, smoothly and dependably, and because it has gone on as far back as we can remember, many persons fail to recognize what this *mass transportation in trains on tracks* means to the American continent.

What the railroads do, in brief, is to haul the major commerce of the continent—all sorts of freight, over all distances and between all stations, in all seasons and all weathers—at rates so low that the *average revenue for carrying a ton of freight one mile is only one cent.* No other form of transport in America offering a like general transportation service even approaches so low an average level of charges. No other railroads in the world, except those of Japan and India, get so little for moving a ton of freight a mile—and the average pay of railroad workers in Japan and India is but a small fraction of that of American railroad men.

Transportation in trains on tracks made possible the development of the American continent and the unity of the American nation. Nor could American agriculture and industry, the continent-wide flow of American commerce, or the American way of life as we know it today, be sustained without the basic transportation service of railroads. This is not to say that trains can do the whole job and that there is no need for other forms of transportation. America has need for all ways of transport, and no one of them is the best way for all purposes. For some jobs, a boy on a bicycle or a man with a wheelbarrow would be better than any of the more elaborate ways. For other jobs, a wagon, a truck, a train, a ship or a plane might be best.

Separate unit transportation in individual vehicles, each with its own power and its own driver, will always be necessary. It was used for thousands of years before there were trains, when the only power was the muscles of

men or of animals. It was used after there were trains on tracks. It is used today, with its range and effectiveness greatly increased through the development of mechanical power for motor vehicles, and it will continue to be used —but transportation in individual vehicles cannot take the place of the mass transportation in trains on tracks without which our modern world of mass production and mass distribution of the things which people need and enjoy could not exist.

Water transportation, too, is as old as history, and it will always be used; but for a vast continent such as America, much of it remote from navigable streams, or even streams which can be made navigable at heavy public expense, and much of it ice-bound during a large part of the year, no possible development of inland water transportation can do what railroads do.

These other ways of transport can do many things well, and can do some things better than railroads. But no one of them, nor all of them together, can take the place of American railroads either in the commerce of peace or the emergency of war.

The measure of commerce at the time railroads came to the United States, a little more than a century ago, may be found in the fact that the regular freight service, the famous national pike between Baltimore and Wheeling, consisted of one wagon in each direction each day. The general cost of freighting goods, in those days, has been estimated as at least 20 cents for hauling a ton one mile, while from the Atlantic seaboard to the Ohio valley, the cost of transportation ran as high as $100 a ton. There is small wonder that many early American statesmen feared that the Mississippi valley would, in time, break away from the Atlantic coast states because of the difficulties and cost of transportation between them.

But the railroad came to America in time to change all that. Between 1830 and 1860 lines were built across the Alleghanies, binding together the east and the west, so that when the long-feared break in the union did come, it was between the north and the south, rather than between the sections separated by the mountains. It is a curious and significant fact that at the outbreak of the war between the states, in 1861, there were numerous through lines of railroad between the west and east, but not a single through rail connection across the dividing line between north and south, the Potomac and the Ohio rivers.

In the same way in which the railroads helped to seal the political unity of America, they helped to create our national commerce. From the 20 cents per ton per mile, or more, which it cost to freight goods by wagon, the cost on the railroads dropped to the neighborhood of 7 cents per ton per mile in the 1840's. Twenty years later, after the close of the war of 1861-65, the cost was about 3 cents per ton per mile. Today, with wages about three times what they were then, and with taxes many times as high, the railroads haul freight for an average revenue of one cent per ton per mile.

What this steady progression toward cheap and satisfactory transportation has meant has been glimpsed by comparing the present with the situations which existed before the railroads came. Within the memory of men now living, most of the continent west of the Missouri river was an unsettled

wilderness, dotted with a few frontier army posts. The cost of transportation for the small garrisons of those posts was fabulous—$380 a ton for supplies hauled from the Texas coast to El Paso in 1850, for example. The cost of sending a one-half ounce letter from the Missouri river to Sacramento, by pony express, was $5.

The extension of the railroads into the west changed all that. It made possible settlement and civilization a thousand miles from a water-course. It made available to the uses of the nation the products of great staple and specialized farming areas, moving one, two or even three thousand miles to market. In the same way in which the railroad had bound together the east and the old west, it bound into the nation the newer west of the plains, the Rockies and the Pacific coast.

This tremendous achievement was not carried through without fault, for railroad men are no more perfect than most. Complaints as to unreasonable rates and discriminatory or preferential practices by railroads, justified in some cases, multiplied. Railroads gave rebates to favored shippers, it was charged—although it might more truly have been said that powerful shippers demanded and took rebates from railroads. The sum total of complaints and resentments led, in 1887, to the beginning of regulation of railroads in the public interest by the United States government. Through various steps and degrees, regulation was increasingly tightened until the Interstate Commerce Commission was vested with a large degree of control over railroad rates, revenues, operations, practices, and expenses.

By the time the United States entered the World War, in 1917, the combination of a long period of rising prices and costs with falling rate levels, had gravely weakened the railroads of the country. The United States government took over the operation of railroads upon the theory that private operation of separate railroad systems could not meet the transportation demands due to the World War. At that time there was much congestion and delay in the movement of freight. To many it seemed that the railroads were failing in their job of transportation, when, as a matter of fact, the failure was not so much in moving war materials as in providing places to unload them when moved. For three hundred miles back of the North Atlantic ports, railroad cars were backed up, standing under loads that had been rushed forward by the railroads under government "priority orders" before there were ships into which to unload them, or before the receivers of the freight were ready to take it out of the cars. The result was loss of use of the cars and congestion of tracks and terminals—such, to take but one example, as the thirteen miles of tracks covered with cars of timber piling, waiting to be unloaded at the Hog Island shipyard project.

Under government operation, railroad costs of all sorts soared, as was inevitable under war conditions. Rates, however, were not raised in proportion—resulting in a deficit of two million dollars a day to be met by the taxpayers. In 1920 the railroads were returned in that condition to their owners, who were faced with the task of restoring a proper balance between revenue and cost of operations.

The story of the railroads from that time to this has been one of progress

and achievement under difficulties. Service has been immeasurably improved. Periodic "car shortages," which sometimes cost the country as much as a billion dollars a year in loss and delay, have been abolished. In times of heavy traffic as well as light, there has not been a general car shortage in more than fifteen years. The average speed of freight trains has been increased more than 60 per cent, and the gains in dependability and reliability have been even greater. An indication of the gain in passenger train speeds is found in the fact that in the past eight years the mileage run at speeds of a mile a minute or better, start to stop, has increased more than forty-fold. And this has been done without sacrifice of safety—for railroad operations are four times safer, on the average, than they were eighteen years ago, and the train accident rate in 1938 was the lowest on record.

Eighteen years ago, the average rate received by American railroads for hauling a ton of freight one mile was more than one and one-quarter cents. Today it averages about one cent, while the average revenue for carrying a passenger a mile is lower now than it has even been before.

In that period, the railroads have spent more than nine billion dollars on better track, better cars and engines, better signals, better shops, better plant and equipment of all sorts. As a result of the better methods of operation which this makes possible, they have been able to reduce the operating cost of moving a ton of freight a thousand miles from $10.78, which it was in 1921, to less than $7. This saving, as compared to what the operating cost would have been had it continued at the 1921 level, amounts to a billion and a half dollars a year.

During these same years in which the railroads have been so greatly improved in service, safety and efficiency, the net increase in their debts has amounted to less than one billion dollars. The railroads as a whole now owe about one-third less, in proportion to the amount invested in their properties, than they did twenty-five years ago. According to the careful valuation of the Interstate Commerce Commission, today's railroads, as a whole, are worth about two billion dollars more than the face value of all the railroad stocks and bonds outstanding in the hands of the public.

Rather commonly overlooked in considering the present situation of the railroads is the fact that they are the only agency offering a general all-round transportation service which is completely privately-owned and operated. In other principal forms of transportation, the carriers owns and operates only his vehicle—boat, truck, or airplane—while the public owns, pays for and maintains the waterways, the highways, or the airways over which the vehicle operates.

In considering questions of cost of transportation, this fact is of the utmost importance. Fourteen billion dollars, or more than half of the railroad investment, is in the roadway, averaging about $62,000 per mile of line. Upkeep of these roadways averages about $1,800 per mile per year, and taxes average another $1,400 per mile of line per year.

The importance of investment in the fixed "way," as distinguished from the moving vehicle, is indicated by the fact that in the past twenty years the American public has spent thirty billion dollars on roads and streets.

The sums suggested as the probable cost of proposed super-highways are four or six times the average cost per mile of railroads. The cost of building inland canals is many times the cost of building railroads, while the cost of building navigable channels in such rivers as the Ohio, the Mississippi, and the Missouri is from three to six times as much per mile as the cost of building railroads. Transportation on such channels can be called "cheap" only because these major elements of its true cost are not paid by those who use the service, but are borne by the taxpayers. And with it all, such transportation cannot take the place of the truly cheap movement by rail.

Nor is rail transport to be replaced by movement in separate unit vehicles. There isn't room enough on our roads and streets for the millions of such vehicles which would be required to handle the tonnage that now moves on the railroads. Nor are there men enough to produce the things America needs and enjoys, and to haul them, too, if all the hauling had to be done in separate vehicles instead of in mass movements in trains. Especially would this be true in time of war when the mere job of hauling, if it had to be done in separate unit vehicles, would require the services of at least four times as many men as the United States had in its army and navy during the World War.

America will continue, therefore, to need and to use railroads for its major commerce in peace and for the major reliance for transportation in war. In determining whether those railroads shall continue to be privately-owned and operated, America may well look to their record—a record on which the American railroads suffer nothing by comparison with any other form of transport, here or elsewhere, or with government-owned railroads, or with the operation of government itself.

THE FOLLY OF PUBLIC OWNERSHIP

(An article by Harold W. Roe in Railway Age, volume 97, pages 69-70, July 21, 1934.)

Government ownership and operation of the nation's railways was made a very live public issue by Coordinator Eastman's pronouncement in his first report that "Theoretically and logically, government ownership is the best cure for the ills that now beset our rail carriers." It is true that he did not advocate it as a thing to be accomplished in the near future, due to the strain it would necessarily put on the finances and credit of the nation but we must not blind ourselves to the fact that he is the administrator's trusted adviser and that a suggestion of this kind coming from him might possibly appeal to our President and his brain trust.

The mere fact that it would become a strain on the country's finances would probably not act as a deterrent, if the administration thought well of the suggestion. I have no doubt that President Roosevelt would find it an easy matter to convince Congress that the railroads could, under government ownership, be made to earn the interest on the bonds it would be necessary to issue to take them over.

We are fortunate that transportation legislation was not considered by our recent Congress. It is unfortunate, of course, that legislation designed

to regulate competing forms of transportation should be postponed for possibly another year, but I believe that our next Congress will be so constituted and the economic condition of the country will be so altered at that time that we may reasonably expect a saner attitude on the part of our lawmakers. An improvement in business conditions, reflected in railroad earnings, might possibly eliminate the cause for drastic legislative action which might under adverse conditions seem desirable or necessary.

Those who now propose public ownership and operation advance the theory that the consolidation of yards and terminals and the elimination of duplicate services and wasteful practices should be accomplished, but that this means of reducing the expenses of our railroads is not now possible under the highly competitive form of private ownership and operation.

Do these proponents of government ownership intend to convey the impression that railroad management is unwilling or not desirous of effecting these necessary and highly desirable measures of economy? Do they intend to convey the thought that railroad labor is so anxious to be enrolled on the payroll of the government that it would be willing to sacrifice the jobs of the men who would necessarily be laid off in effecting these economies? Do they intend that the public should believe that railroad labor would immediately abandon its demands for higher rates of pay, shorter hours, job insurance and old age pensions, and that it would not use the influence of the great political bloc its group would constitute in enforcing those demands?

It is ridiculous to assume that operating expenses, particularly wages, which in 1932 represented 63.5 per cent of total railway expenses, would not be increased tremendously under government ownership. One of the arguments advanced against government ownership when it was being discussed many years ago was that the party in power at the time of purchase would have the right to appoint the vast army of employes then estimated at 1,800,000 or one-tenth of the voting population of the country. With a sure increase of numbers and wages, this patronage would give the party in power such an advantage that it would be next to impossible to remove it without revolution. Opportunities for graft and corruption would be almost without limit. Perhaps this argument, particularly as it refers to continuing the political party in power, may seem a little overdrawn at the present time and under present conditions but it seems to me that it still holds good with regard to the powerful political machine that would be created and the opportunities for graft and corruption that would be afforded.

Much has been said by the proponents of public ownership, including Mr. Eastman, of the governmentally owned and operated railroads of other countries, particularly Canada, and the inference has been left that at least in some of these countries such ownership and operation were satisfactory and profitable. The causes which brought about government ownership in these other countries are not present in the United States. We are not a military nation and do not need government operation for military reasons. Some countries have found it necessary to own and operate their railways to bring about a quick development of their natural resources. Others have adopted government ownership to accomplish specific political, social, and economic aims. It is doubtful if any of these governmentally-owned and operated roads

have been operated as efficiently or as economically as they would have been under private ownership and management.

Mr. Eastman in his first report also mentions our own governmentally-owned and operated "Alaska Railroad." A careful reading of the special senate committee's report on this railroad should convince anyone that it has not been free from political influence, or that it has not been efficiently operated. This report, printed and released in 1931, in speaking of the necessity of increasing freight and passenger rates, reads in part as follows: "The history of the operation of the property renders this clear, as the Alaska Railroad has never in any one year since its inception in 1916 paid its mere expenses of operation, to say nothing of the additional capital expenditures that have been required annually, and interest upon the $70,000,000 that have been invested in the property. Congress has been called upon year after year to make appropriations, not merely for new capital but to cover deficits which, for the seven years beginning with 1924, alone total $8,100,000 and for the fiscal year 1930, $1,213,000, while the total debit balance is nearly $11,-000,000; a sum that would be greatly increased if worthless items as assets are written off." Another part of the report reads as follows: "A factor, other than inadequate passenger and freight rates that contributes to the annual deficits is looseness and inefficiency in the conduct of the railroad's business and affairs, and of activities incident thereto."

Much has also been said (most of it unfavorable) regarding the operation of our railroads by the railroad administration during the war. Obviously it is not fair to make a comparison of this period of government control and operation with government ownership and operation during normal peace times. Many of us, however, gained through that experience a knowledge of government inefficiency in management and of profligate expenditures and reckless use of the public's money sufficient to put us on our guard against government ownership. The president of one of our greatest railroad systems, who held a position of great importance and vast authority with the railroad administration, recently told me that he would be unwilling to place in any one man's hands the authority and control over our railroads that he had at that time.

One of the most disastrous results of government ownership and operation would be the loss to the states and municipalities of the taxes paid by our privately-operated railroads, which amount in normal years to more than $1,000,000 per day. I am sorry that I have not had the time nor the opportunity to determine how the loss of this revenue would affect the state of Colorado. I do know that in our southwestern states, many counties are almost entirely dependent on railroad taxes for the support of their schools and that many of them have been forced to request the railroads to pay a part of their taxes in advance to prevent the closing of their schools. The Montana Railroad commission recently stated that the railway corporations now pay approximately 27 per cent of the total taxes received for the support of its state, county, municipal and school district governments. Any substantial reduction in these tax payments would involve the necessity for a complete reorganization of its present tax system, pending which, hundreds of its

schools would be so impoverished as to cause the complete suspension of many vital educational activities.

It was recently determined that in the state of Indiana the taxes collected from the steam railroads in 1932 constituted 8.88 per cent of the total tax collections for the year and that of the total amount collected from the railroads more than $5,000,000 was appropriated for the schools of the state. This amount represented 41.74 per cent of all taxes used for the support of its public school system and was sufficient to provide an entire year's schooling for 59,906 pupils.

In case of government ownership, this source of revenue would be lost to your city, county and state treasuries, and appropriations for the support of your schools and various other public purposes would have to be cut accordingly, or new forms of taxation on corporations and individual property be devised to make up the deficit. The result of this necessity is appalling when we consider that it applies to every township and municipality through which our railways operate. Many small communities are dependent almost entirely on the taxes collected from their railroads.

It would be difficult to reach any conclusion other than that the total cost of furnishing transportation would be increased under government ownership. We all know that in any government project there is more reckless expenditure and dishonesty than in private business and in spite of any safeguards we might erect for the ownership and control of our railroads by the government, we could reasonably expect the usual amount of inefficiency, coupled with nearly every form of graft and dishonesty that such a tremendous undertaking would permit.

Experience has taught us that government operation of any economic function is generally characterized by lack of efficient management, bad operating methods, waste, inefficiency, delay and hesitancy, as opposed to privately managed business. We have no reason to believe that it would be any different in the operation of our railroads.

It is reasonable to assume that the increased economic burden to the nation, if the government should decide to take over the railroads, would have to be borne by the taxpayer. Under government ownership, with its attendant evils, if rates are made high enough to cover all the costs of operation, depreciation and interest, they will necessarily be higher than under our present efficiently managed and operated private systems. If they are not made high enough to cover all of the costs, the balance will be supplied through taxation, with the result that some will receive transportation at less than actual cost while others will be forced to pay part of the cost of furnishing transportation they do not use. This is precisely what is happening today in the case of our inland waterways.

I am convinced that neither government ownership and operation nor government regulation, as it is practiced today, offers any solution to our present transportation problems. I am also convinced that reasonably regulated private management has all of the advantages and none of the disadvantages of any plan of government operation so far advanced. And I believe than even with a partial return to normal business conditions, together

with a policy of fair and impartial transportation legislation applied to all transportation agencies, private management alone will be able to cure at least most of the present ills of our railroads.

RAILROADS: GOVERNMENT OWNERSHIP?

(An article by Samuel O. Dunn in the Rotarian, volume 46, pages 15, 59-63, June, 1935.)

What is being said about government ownership of railways in the United States is very paradoxical.

In 1924, it was advocated in the platform of the progressive party. It is now being advocated again by many who then supported the party. The paradox in their case is that they are now using arguments for it that are exactly opposite of those they used then. Their principal arguments then were that the railroads were a monopoly, and were making too much money. Their principal arguments now are that the waterway and highway competitors of the railways have taken much of their traffic, and that, largely for this reason, the railways are in such a bad financial condition that they cannot borrow from anybody but the government!

There are many others whose attitude is a paradox because they say they are opposed to government ownership, but that it is "inevitable." Formerly, in America, it was the practice of most persons who believed that an important change in our political and economic systems would be undesirable, or even disastrous, to unite in advocating the means necessary to its prevention. Has the spirit which then prevailed been succeeded by one of general and inert defeatism? I do not think so. Government ownership of railways is no more inevitable in the United States now than it has been in the past, because the means of preventing it are as plain as, and will be no more difficult to carry out than, those adopted heretofore to prevent it.

The real question is *whether government operation is desirable.* This is true because government ownership undoubtedly would involve government operation, and the way the railways were operated would determine whether government ownership would be advantageous or disastrous to the public.

Fortunately the facts for comparing government and private operation in the United States are readily available. The railways were operated by the government in 1918 and 1919. The World War ended in November, 1918. Therefore, their operation throughout 1919 indicates how they would be operated by the government in the future under conditions of peace. Their officers in 1919 carried out government orders and policies, and the results were principally due to these orders and policies.

Let us, then, briefly compare railways results under government operation in 1919, with railways results under private operation in 1933, the worst year of the depression. The comparison—or contrast—will throw light on many questions.

Gross earnings in 1919 were $5,150,000,000, and in 1933 only $3,100,000-000, a decline of 40 per cent due to the depression. You would naturally ex-

pect to find, in view of these figures, that the financial results of operation were much worse in 1933 than in 1919. But they were better. Net earnings in 1919 were $745,000,000, and in 1933 were $846,000,000. The reason they were larger was that operating expenses were reduced from $4,400,000,000 in 1919 to $2,250,000,000 in 1933, or 49 per cent.

The best single measure of efficiency and economy is the ratio of expenses to earnings. Operating expenses consumed 85½ per cent of gross earnings under government operation in 1919. They consumed less than 73 per cent of the much smaller gross earnings collected under private operation in 1933. Rates were about the same. The average hourly wage paid was 11 per cent higher than in 1919. Operating expenses were so much less because of great improvement in plants and methods made under private management between 1919 and 1929, and great retrenchments made during the present depression.

The amount of freight handled per employe was by no means the only economy effected. In 1919, fuel, other material and supplies, loss and damage of freight, injuries to persons, and insurance cost 32 per cent of gross earnings, or a total of $1,630,000,000. In 1933, they cost only 23 per cent of gross earnings, or $814,000,000. It will be observed that the reductions in labor costs and in other operating expenses were relatively about the same—approximately 50 per cent.

There was one item of expenses that did not decline, and it is significant, because it happens to have been the only one that was controlled by government in both 1919 and 1933. In spite of the terrific reductions of both earnings and operating expenses, the amount of taxes paid by the railways increased. They were 3.6 per cent of gross earnings in 1919, and 8.1 per cent of them in 1933.

And how about the service rendered to the public?

Two comparisons may be significant. First, under "unified government operation," the freight "car shortage" reached a maximum in the fall of 1919 of 64,000 cars. Under subsequent private management, the problem of furnishing adequate service was so completely solved that within the last decade there has never been a shortage of as much as 3,500 cars reported, and during the last five years there has not been a single failure to furnish a shipper a car whenever and wherever he wanted it. Second, in 1919 the number of passengers and employes killed in accidents was twice as great in proportion to the number carried and employed as in 1933.

Forty-two per cent of the railway mileage of the world is government-owned. The difference between the influences to which government and private management usually are subject apparently is responsible for the fact that the results of government management in other countries and of private management in the United States present a contrast similar to that between the results of government management and private management in the United States in 1919 and 1933.

As already shown, the operating expenses of the railways of the United States in 1933 consumed less than 73 per cent of their gross earnings. The operating expenses of some government-owned railway systems in 1933 were,

in Germany, 105 per cent of gross earnings; in Italy, 119 per cent; in Belgium, 107 per cent; in Denmark, 114 per cent; in Norway, 111½ per cent; in Sweden, 92 per cent; in Switzerland, 80 per cent; in France, 118 per cent; in New Zealand, 86 per cent; in Poland, 91½ per cent; in British India, 73.4 per cent; in Japan, 62 per cent; in South Africa, 76 per cent; in Canada, 96 per cent.

In almost every one of these countries, the average freight rate was higher, and the average wage paid employes much lower, than in the United States. Yet in the United States the earnings of the railways exceeded their operating expenses, and the losses of those that did not make enough net earnings to meet their fixed charges were borne by private owners of their securities, while operating expenses exceeded earnings on a large majority of government-owned railways, with resulting heavy losses borne by the taxpayers.

It is true that many of the railways of the United States have borrowed from the government during the present depression to avoid bankruptcy. But they have given security for the loans. They borrowed twice as much from the government during and after the war-time experiment with government operation as they owe it now; and they repaid practically all of it within a few years. They will repay the government all they owe it now when prosperity returns, if given a chance by government to earn enough, as they were in the twenties.

There is nothing in the record of the railways of this or any other country to support the view that under government operation in this country rates would be lower, or wages higher, or service better. There is abundant evidence, however, to indicate that taxes would be greatly increased by railroad deficits that the public would have to pay. The railroad deficit resulting from government operation in the United States in 1918 and 1919 that the taxpayers had to meet was $1,600,000,000; and they probably would have had a vastly larger railroad deficit than this to meet during the recent depression years if our railroads had been government-operated.

In 1919, under government operation, traffic declined 10 per cent. Were operating expenses correspondingly reduced? On the contrary, they were actually increased 10 per cent, or $400,000,000.

Government ownership would enormously increase the present national debt of the United States, which already is so huge that it threatens the national credit. It would immediately add 1,000,000 to the present unprecedented army of government employes, and increase it by at least another 700,000 when an increase of traffic made it necessary to reemploy the present railway unemployed. It would make it necessary for the taxpayers immediately to shoulder a huge railroad deficit, which all experience indicates would constantly increase. It would almost inevitably be followed by extension of government ownership to other industries.

The government probably would quite soon convince itself that it could make locomotives, cars, and materials for the railways cheaper than it could buy them from private manufacturers. It would soon convince itself that it could mine coal cheaper than it could buy it from private operators.

In the years immediately before the depression, the railways paid $3,000,000,000 annually in wages and spent more than $2,250,000,000 in annual purchases from other industries, a total amount exceeding the recent huge appropriations for work-relief. Could any political party ever be ousted from power which had control of such vast expenditures, in addition to those now being made and contemplated at Washington?

What is necessary to prevent government ownership of railways?

First, a revival of general business. When freight traffic increased 30 per cent in the fall of 1932, railway net operating income increased from $12,000,000 in July to $64,000,000 in October. A substantial and lasting increase in traffic due to revival of general business would soon enable every railway system in the United States to earn a substantial margin over its fixed charges and to begin repaying its loans from the government.

Second, pass legislation which will equalize terms of competition between railways and other carriers as respects subsidies and regulation.

Third, reduce railway wages to a basis reasonable as compared with those paid in other industries, and, especially, by competing carriers. The average hourly railway wage, since its restoration on April 1 to the pre-depression basis, is 22 per cent higher than it was under government operation in 1919, and 170 per cent higher than before the war.

A substantial increase in railway traffic due to business recovery and to legislation equalizing terms of competition in transportation as respects subsidies and regulation, and a reasonable reduction of wages would make the railroads, even with lower rates than those now in effect, as completely self-supporting as any other industry in the country. The increase in net earnings resulting would enable them rapidly to liquidate their indebtedness to the government. It would also increase their buying from the profoundly depressed capital goods industries, of which they are normally the largest customers, and thereby powerfully promote general economic recovery.

Few want government ownership of railways now excepting those whose political and economic principles cause them, regardless of such facts and conditions, as I have cited, to advocate it. *It is not inevitable.* I confidently predict that the measures necessary to its avoidance will be adopted by government and by the present private managements.

A SQUARE DEAL, WITH NO FAVORITISM

(An article by J. J. Pelley in the Forum and Century, volume 101, pages 131-132, March, 1939.)

Appreciating fully the risk of appearing blind, and facetious, I want to say with all the emphasis at my command that there is nothing fundamentally wrong with the railroads today. They are sound, virile, progressive public servants, giving the American people the best and cheapest freight and passenger service in the world. They don't need "rehabilitation," however the word may be defined; they need only two things—a square deal and a square meal. One follows the other.

It has been said—probably by those who make mountains out of the molehills of unhappy personal experiences—that the railroads are "behind the times." Railroad management is incompetent; railroad service and facilities are antiquated, they say, with all the conviction which flows from an isolated but nevertheless real and acutely personal experience. It would be just as accurate and fair to say that a typographical error in the Forum proved that its editors were illiterate.

Some say, with significant frequency, that the railroads are over-capitalized—hence their present situation. That is to ignore or dispute established figures which are public record, available to all. These records show, among other things, that the total amount of railroad securities of every sort held by the public is billions of dollars *less* than the total investment in railroad property.

Companion of the overcapitalization myth is the allegation that the railroads are laboring under a too-heavy burden of debt which requires fixed charges beyond the ability of the industry to pay. How can this myth be reconciled with the record which proves that the ratio of debt to investment is *lower* than it was when the railroads were prosperous—or with the record which shows that present fixed charges consume less of gross revenues than in any of the years prior to 1917 when the railroads were "making money?"

There are people, too, who believe that the railroads are suffering from financial skulduggery—the old Wall Street in modern dress. The financial history of the American railroads is not spotless, any more than is the financial history of any industry or even that of the government itself. But the record of the industry as a whole—and particularly the records of an overwhelming majority of the individual railroads—proves conclusively that the rail carriers generally have been and are soundly financed. These proofs will inevitably catch up with the myth they explode.

The financial distress of the railroads is a matter of simple arithmetic. They have not been taking in enough money. The margin between income and outgo has been squeezed so thin that it has all but disappeared. On many roads there is no margin—only red-ink entries in the ledger.

Railroad income is inadequate primarily because rail-traffic volume is inadequate. Rail-traffic volume is inadequate partly because the railroads, like all businesses, have suffered from the depression and partly because of a substantial diversion of traffic to other forms of transport.

Diversion presents a more complicated problem. If this diversion presented the result of a fair contest between evenly matched transportation agencies, the railroads would have no complaint. But the competition is neither fair nor even. The user of rail services must pay all the expenses of transportation—the taxpayer foots the rest of the bill.

This inequality is the result of two inconsistent public policies. One promotes and supports, with the aid of the public purse and by comparative freedom from restrictive regulation, all of the ways—waterways, highways, and airways—all, that is, except the railways. The other is a hangover from the days when the railroads were a monopoly. It includes restrictions, limitations, and regulations that may have been in the public interest before the days of boxcars on the highways, canalized rivers, air transports, and all other competitive carrying facilities of this day. But this policy badly needs streamlining; and the streamlining process has been incorporated in a program that has for its motif—a square deal for the railroads.

What the railroads mean by a "square deal" has been bundled up in "a railroad program for the solution of the nation's transportation problem." This program contains eighteen specific proposals, designed to attain three major objectives. The first is freedom for the railroads to price their services so as to meet constantly changing industrial, agricultural, and competitive conditions. The second is freedom to consolidate rail properties along natural lines without the handicap of artificial rules or predetermined plans. The third and most important is true equality among all forms of transport —equality in regulation, in taxation, and in subsidy (if subsidies there must be).

The railroads are not asking for special privileges. They are not seeking the destruction of any form of transport that the public wants or needs. They are not shooting at legitimate and impartial regulation in the public interest. They *are* asking the people of the nation for a square deal—which means only those rights accorded to every other business and only those privileges and opportunities accorded the railroads' competitors.

Granting this freedom and equality, the railroads will take care of the rehabilitation job. By so doing, they will lead the parade to national prosperity.

POINTS OPPOSING GOVERNMENT OWNERSHIP OF THE RAILROADS

(Compiled by editors of the Bulletin)

1. Even though railway transportation is essentially of a public nature, the government, if sufficiently effective to operate it, can by regulation make private operation work for the best interests of the public.

2. Even though railway transportation is for the most part essentially monopolistic, private operation can best do its work by having a monopoly management. This monopoly management can be effectively regulated by the government, if it is sufficiently capable of successful operation.

3. Even though all sections of a country need the development which railway transportation brings, private enterprise, with effective government aid and regulation, may develop the undeveloped sections—those sections which cannot immediately yield profits. Such aid and regulation need be but a slight task for the government as compared to that of financing and managing government operation.

4. Though railway charges are of fundamental concern to all consumers and producers, they can be regulated under private operation, and the idea of profits by a government that is strong enough to operate them effectively, so as to render practically universal service at reasonable rates. There have been many abuses in private operation in the past, but comparatively few exist now in such countries as England and the United States, which have developed effective methods of governmental regulation; and the few abuses which now exist will be eliminated by a further growth in the effectiveness of governmental regulation.

5. A government may have its highest development in the work of regulating industries rather than in the actual operation of industries. From its very nature and composition, the government exists primarily for the purpose of regulating industry, and not for the purpose of carrying on business.

6. The government may really obtain more revenue through the process of taxing the railways which are operated by private enterprise than it could through the net earnings of government operation.

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STUDY OUTLINES

LIBRARY EXTENSION PUBLICATIONS

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1. Oct., 1934. *The Southern Garden.* W. L. Hunt.
2. January, 1935. *Adventures in Reading, Seventh Series.* C. S. Love.
3. April, 1935. *Below the Potomac.* M. N. Bond.
4. May, 1935. *Europe in Transition.* Phillips Russell & C. M. Russell.
5. June, 1935. *Other People's Lives, Fourth Series.* C. S. Love.
6. July, 1935. *The Story of Books.* R. B. Downs.

VOLUME II

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3. April, 1936. *Adventures in Reading, Eighth Series.* M. N. Bond.
4. May, 1936. *Other People's Lives, Fifth Series.* C. S. Love.
5. June, 1936. *Adventures in Reading, Ninth Series.* A. B. Adams.
6. July, 1936. *Modern Plays and Playwrights.* C. M. Russell.

VOLUME III

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6. July, 1938. *Famous Women of Yesterday and Today.* Third Edition. C. S. Love.

VOLUME V

1. Oct., 1938. *Political Problems in Present-Day Europe. First Series.* Werner P. Friederich.
2. Jan., 1939. *Political Problems in Present-Day Europe. Second Series.* C. B. Robson, C. H. Pegg, A. B. Dugan, and J. L. Godfrey.

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UNIVERSITY OF NORTH CAROLINA EXTENSION BULLETIN

VOL. XIX OCTOBER, 1939 NO. 3

ACADEMIC CONTESTS FOR NORTH CAROLINA HIGH SCHOOLS

ANNOUNCEMENT FOR THE YEAR

1939-40

Published six times a year, July, September, October, November, January, and March, by the University of North Carolina Press. Entered as second-class matter October 19, 1921, Chapel Hill, N. C.

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ADDRESS: UNIVERSITY EXTENSION DIVISION,
CHAPEL HILL, N. C.

ACADEMIC CONTESTS FOR NORTH CAROLINA HIGH SCHOOLS

ANNOUNCEMENT

Announcement is made in this number of the University of North Carolina Extension Bulletin of the regulations which will govern the following academic contests for North Carolina high schools, to be conducted in the spring of 1940: the sixteenth annual high school Latin contest, the fifteenth annual high school French contest, the fifteenth annual high school Spanish contest, the fifteenth annual high school Mathematics contest, and the third annual high school Physics contest.

By means of these contests the University Extension Division and the several departments concerned of the University of North Carolina hope to render a service to the high schools through an increase in the interest of North Carolina high school students in the field of scholarship, particularly in the study of the designated subjects, Latin, French, Spanish, Mathematics, and Physics. Since these contests were inaugurated, with the first annual high school Latin contest held on February 18, 1925, they have met with a very cordial reception on the part of the high schools of the State. The central committee at the University hopes that the contests will be found helpful by the high schools and that they will prove generally successful this year.

The dates for the holding of these different contests are as follows: Physics contest, February 9; Latin contest, February 16; Spanish contest, March 8; French contest, March 22; and Mathematics contest, April 26.

All accredited North Carolina public high schools are invited to enter the contests. The school officials whose schools plan to enter the contests should notify E. R. Rankin, Secretary, at Chapel Hill, at their earliest convenience regarding the number of pupils whom they will have to enter the different contests.

The attention of school officials and teachers is called to the following general regulations, which will apply to all five of the high school academic contests, and to the special regulations which will govern each particular contest.

GENERAL REGULATIONS

1. The University Extension Division and the several departments concerned of the University of North Carolina will conduct, with the cooperation of participating high schools, contests in the spring of 1940 in Physics, Latin, Spanish, French, and Mathematics for high school students, participation in these contests being open to accredited North Carolina public high schools.

2. The contests will be conducted in all cases under the direct supervision of the superintendents, high school principals, or teachers in the schools.

3. No student who has already been graduated from a high school shall be eligible to participate in the academic contests.

4. It is necessary for all students to be regularly enrolled in their high schools at the time of their participation in the academic contests.

5. The tests in all of these contests will be forwarded from Chapel Hill to the individual schools in sealed envelopes, which are not to be opened until the time when the examinations are given.

6. It will be necessary in each case that the individual student give a pledge stating that no help has been given or received on the test.

Superintendents, principals, or teachers in charge of the contests will give assurance to the committee that the contests have been properly conducted and that all of the regulations and conditions pertaining to the contests have been observed.

THE HIGH SCHOOL PHYSICS CONTEST

1. The contest will take place throughout the State on February 9, 1940.

2. Students who may take part in the Physics contest are limited to members of the sophomore, junior, and senior classes.

3. The examination will cover the topics of mechanics and heat.

4. The individual school will send its papers to the Secretary of the Physics Contest Committee at Chapel Hill by February 14, 1940.

5. The papers from the various high schools will be graded by faculty members of the Department of Physics of the University. Announcement will be made of the school whose student wins first place. Honorable mention will be given to several schools whose students submit next best papers.

6. All schools deciding to enter the Physics contest will notify the committee at Chapel Hill not later than February 5 of their plan to participate and will also notify this committee as to the number of students of the particular high school who will wish to enter the contest.

THE HIGH SCHOOL LATIN CONTEST

1. The contest will take place throughout the State on February 16, 1940.

2. Students who may take part in the Latin contest are limited to members of the sophomore, junior, and senior classes. It is regarded as inadvisable for students to attempt the examination who have not had at least a full year of Latin.

3. This examination will require (1) an ability to translate passages of comparatively easy Latin, will include (2) questions on form and

syntax based on such passages, and will include (3) questions involving a general knowledge of grammar.

4. The individual school will select the best three papers from the total of the papers submitted in the local contest and will send these three papers to the Secretary of the Latin Contest Committee at Chapel Hill by February 22, 1940.

5. The papers, as they are sent in by the various high schools, will be graded by faculty members of the Department of Latin of the University. Announcement will be made of the school whose student wins first place. Honorable mention will be given to several schools whose students submit next best papers.

6. All schools deciding to enter the contest will notify the committee at Chapel Hill not later than February 11 of their plan to participate and will also notify this committee as to the number of students of the particular high school who will wish to enter the contest.

THE HIGH SCHOOL SPANISH CONTEST

1. The contest will take place throughout the State on March 8, 1940.

2. Students who may take part in the Spanish contest are limited to the sophomore, junior, and senior classes. The contest will be of a practical nature, enabling the student to show what facility he has acquired in handling Spanish verbs, grammar, and reading.

3. The individual school will select the best three papers from the total of the papers submitted in the local contest and will send these three papers to the Secretary of the Spanish Contest Committee at Chapel Hill by March 14, 1940. *The high school teacher is expected to score and to record the number of errors in each paper which is sent to Chapel Hill. Papers which have not been scored and on which the errors have not been recorded will be automatically disqualified.*

4. The papers from the various high schools will be graded by faculty members of the Department of Spanish of the University. Announcement will be made of the school whose student wins first place. Honorable mention will be given to several schools whose students submit next best papers.

5. All schools deciding to enter the contest will notify the committee at Chapel Hill not later than March 4 of their plan to participate and will also notify this committee as to the number of students of the particular high school who will wish to enter the contest.

THE HIGH SCHOOL FRENCH CONTEST

1. The contest will take place throughout the State on March 22, 1940.

2. The high school French contest is intended only for students in second year French who have had no special advantages nor private instruction in the language.

3. The scope of the contest will include: (1) a vocabulary test, (2) the conjugation of several representative verbs, (3) the composing of French sentences illustrating different grammatical points, and (4) a reading test.

4. The individual school will select the best three papers from the total of papers submitted in the local contest and will send these three papers to the Secretary of the French Contest Committee at Chapel Hill by March 28, 1940. *The high school teacher is expected to score and to record the number of errors in each paper which is sent to Chapel Hill. Papers which have not been scored and on which the errors have not been recorded will be automatically disqualified.*

5. The papers from the various high schools will be graded by faculty members of the Department of French of the University. Announcement will be made of the three best individual papers in order of excellence, with honorable mention to the next above. Announcement will also be made of the three schools whose three-student teams make the best showing.

6. All schools deciding to enter the contest will notify the committee at Chapel Hill not later than March 18 of their plan to participate and will also notify this committee as to the number of students of the particular high school who will wish to enter the contest.

THE HIGH SCHOOL MATHEMATICS CONTEST

1. The high school Mathematics contest will take place throughout the State on April 26, 1940.

2. Students who may take part in the Mathematics contest are limited to members of the sophomore, junior, and senior classes.

3. The scope of the contest will include: (1) an arithmetic test, (2) an algebra test, and (3) a plane geometry test, ten questions in each.

4. The individual school will select the best paper from the total of papers submitted in the local contest and will send this paper to E. R. Rankin, Secretary of the Mathematics Contest Committee, at Chapel Hill by May 3, 1940. Only one paper is to be sent to Chapel Hill from each school. Each paper submitted in the contest must carry the name of the writer, the name and address of the school, and the name of the principal.

5. The papers, as they are sent in by the various schools, will be graded by faculty members of the Department of Mathematics of the University. Announcement will be made of the school whose student wins first place. Honorable mention will be given to several schools whose students submit next best papers.

6. All schools deciding to enter the contest will notify the committee at Chapel Hill not later than April 22 of their plan to participate and will also notify this committee as to the number of students of the particular high school who will wish to enter the contest.

WINNERS OF ACADEMIC CONTESTS IN THE PAST

The Latin Contest

Charlotte High School, 1925; Lillington High School, 1926; Wilson High School, 1927; Roxboro High School, 1928; Durham High School, 1929; Durham High School, 1930; Durham High School, 1931; Roxboro High School, 1932; Wilson High School, 1933; Durham High School, 1934; Wilson High School, 1935; Statesville High School, 1936; Durham High School, 1937; Durham High School, 1938; Durham High School, 1939.

The French Contest

Raleigh High School, 1926; Davidson High School, 1927; Forest City High School, 1928; Lenoir High School, 1929; Greensboro High School, 1930; Fayetteville High School, 1931; Louisburg High School (tie), 1932; Sylva High School (tie), 1932; Oxford High School, 1933; Louisburg High School, 1934; Louisburg High School, 1935; Louisburg High School, 1936; Albemarle High School (tie), 1937; Rockingham High School (tie), 1937; Richard J. Reynolds High School, 1938; Wakelon High School, 1939.

The Spanish Contest

Statesville High School, 1926; Statesville High School, 1927; Reidsville High School, 1928; Albemarle High School, 1929; Albemarle High School, 1930; Fayetteville High School, 1931; Gastonia High School, 1932; Gastonia High School, 1933; Gastonia High School, 1934; Gastonia High School, 1935; Gastonia High School, 1936; Rocky Mount High School, 1937; Rocky Mount High School, 1938; Gastonia High School, 1939.

The Mathematics Contest

Ayden High School, 1926; Charlotte High School, 1927; Ahoskie High School, 1928; Rocky Mount High School, 1929; Greensboro High School, 1930; Greensboro High School, 1931; Durham High School, 1932; Durham High School, 1933; Broughton High School, 1934; Albemarle High School, 1935; Durham High School, 1936; Charlotte High School, 1937; Broughton High School, 1938; Durham High School, 1939.

The Physics Contest

Sanford High School (tie), 1938; Southern Pines High School (tie), 1938; Charlotte High School, 1939.

UNIVERSITY EXTENSION SERVICES

The University of North Carolina offers, through the Extension Division, the following services to the people of the State:

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Library Service. Reading courses, books, and reference materials are loaned to individuals and groups interested in the systematic study and discussion of literary, historical, social, and other subjects. There are available about fifty outlines for study suitable for women's clubs or other groups.

Lectures. Popular and technical lectures and readings by members of the faculty are arranged for schools, clubs, and other community organizations. Lecture courses either on a particular subject or on a series of topics may be obtained. Short courses and institutes are held at the University for groups interested in intensive training and instructional programs.

Dramatic Arts. Assistance is given in organization for dramatic activities, in play selection and production, and in the loan of playbooks and other library material. An annual tournament is conducted in coöperation with the Carolina Dramatic Association.

Interscholastic Activities. In coöperation with several University departments and state agencies, the Division conducts annual contests in debating, athletics, and academic subjects. A coaching school is held each summer for high school coaches and athletic directors.

Publications. *The University News Letter*, containing the results of studies made of economic and social conditions in North Carolina, is sent free to residents of the State. There are also issued annually several numbers of *The Extension Bulletin* containing information of interest to general readers.

For information concerning any of these services, write to the UNIVERSITY EXTENSION DIVISION, Chapel Hill, N. C.

UNIVERSITY OF NORTH CAROLINA
EXTENSION BULLETIN

VOL. XIX MARCH, 1940 NO. 4

Fourth Annual

NORTH CAROLINA SCHOOL ART EXHIBITION

MARCH 30 TO APRIL 16, 1941

FOR THE SCHOOLS AND COLLEGES OF
NORTH CAROLINA

ELEMENTARY SCHOOLS JUNIOR HIGH SCHOOLS

SENIOR HIGH SCHOOLS

JUNIOR COLLEGES SENIOR COLLEGES

Published six times a year, July, September, October, November, January, and March, by the University of North Carolina Press. Entered as second-class matter October 19, 1921, Chapel Hill, N. C.

Conducted by

THE UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL

The Department of Art
The Extension Division

THE WOMAN'S COLLEGE
OF THE UNIVERSITY OF NORTH CAROLINA
AT GREENSBORO

The Department of Art
The Department of Public Relations

Co-operating Organization
NORTH CAROLINA FEDERATION OF WOMEN'S CLUBS

SPECIAL CHECK LIST

Before submitting entries to this exhibition, please check to see that—

1. You are properly classified as to unit (city or county) and level of competition.
2. You are properly classified as to group and individual entries.
3. If a group entry is made, it exactly fulfills the requirements.
4. You have mounted all group entries (excepting models, sculpture, etc.) on 22″ x 28″ cards.
5. If possible, you have mounted all individual entries, unless framed, on cards measuring 14″ x 19″, 18″ x 24″, or 22″ x 28″.
6. Duplicate entry blanks have been properly filled out for each entry.
7. Each entry has a blank affixed to it and a duplicate blank mailed to the Exhibition Committee.
8. The correct amount for entry fees is sent with the duplicate blanks.
9. Shipments are carefully packed and labeled on the outside with the name and address of the sender.
10. Your entries reach Chapel Hill by 5 p. m. of Monday, March 24, 1941.

Entry Blanks

Please state below the number of entries your school will make. On receipt of the "Request for Entry Blanks" below, the Art Exhibition Committee will send you the desired number in duplicate form—one blank to be attached to each entry and a duplicate to be mailed to the Committee with the proper fee. These requests should be mailed by March 15, 1941.

Request for Entry Blanks

TO THE N. C. SCHOOL ART EXHIBITION COMMITTEE
DEPARTMENT OF ART
UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N. C.

PLEASE SEND US BLANKS FOR_____ENTRIES.

_____
(School)

_____
(Address)

_____
(Signature of Superintendent, Principal, Art Supervisor, or Art Instructor)

Circulating Exhibition

TO THE N. C. SCHOOL ART EXHIBITION COMMITTEE
DEPARTMENT OF ART
UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N. C.

PLEASE SEND INFORMATION CONCERNING THE 1940-41 CIRCULATING EXHIBITION OF NORTH CAROLINA SCHOOL ART.

_____
(Name of School or Woman's Club)

_____
(Address)

_____
(Signature) (Position)

Fourth Annual
North Carolina School Art Exhibition

The purpose of this exhibition is to promote the teaching of art and to encourage art production in the schools and colleges of North Carolina. By circulation of the exhibition after the initial showing, it will be possible to acquaint both teachers and pupils with the work being done in other schools and so to stimulate both art teaching and art production to a wider scope and a higher level.

DATES OF EXHIBITION

The exhibition will be held from March 30 through April 16, 1941, and will be divided between the two divisions of the University sponsoring it.

Exhibition of the Work of Elementary Schools
(Grades 1 through 6)

Person Hall Art Gallery, Chapel Hill	March 30 thru April 6
Art Gallery, Greensboro	April 10 thru April 16

Exhibition of the Work of High Schools and Colleges
(Grades 7 through college)

Art Gallery, Greensboro	March 30 thru April 6
Person Hall Art Gallery, Chapel Hill	April 10 thru April 16

LAST DAY FOR MAKING ENTRIES

All entries for the state-wide exhibition must be in the hands of the committee at Chapel Hill by 5 p. m. on Monday, March 24, 1941.

CIRCULATING EXHIBITION

All work accepted for exhibition will be retained by the Exhibition Committee for circulation as a traveling exhibit through North Carolina during the school year 1941-42. Exceptions will be made in the case of works which are not suited to the handling involved in the circulating of an exhibit.

Any school wishing to schedule the exhibit should make a reservation as soon as possible. Each exhibit center will be responsible for the expenses of packing and hanging and of transportation from the preceding exhibit center. It is suggested that schools obtain the sponsorship of the local Woman's Clubs for the showing of the exhibit. Use the form on page 15 to obtain more detailed information.

General Rules for the Exhibition

Regulations

ELIGIBILITY

Work done by students of elementary schools, junior high schools, senior high schools, junior colleges, and senior colleges—public, private, or parochial—of the state of North Carolina, except that by students of the colleges conducting this exhibition, shall be eligible for submission to the exhibit.

JURY SELECTION

Only works which are selected by the jury shall be exhibited.

UNITS AND LEVELS OF COMPETITION

All elementary and high school work submitted shall be divided into two distinct units of competition determined by whether the school is in a city administrative unit or a county administrative unit. Under this system the work of county schools will be judged separately from that of city schools except for the awarding of a gold ribbon for top first place in each class. (See Judgment and Awards, page 8.) All private and parochial schools shall be classed with the city administrative units.

The work submitted shall be grouped in the following manner for judgment, each group comprising a level of competition.

City Administrative Units and County Administrative Units

Level 1:	Grades 1, 2, 3	Division I Elementary Schools
Level 2:	Grades 4, 5, 6	
Level 3:	Grades 7, 8, 9	Division II High School
Level 4:	Grades 10, 11, (12)	

College Units

Level 5:	College Freshmen and Sophomores	Division III College
Level 6:	College Juniors and Seniors	

GROUP ENTRIES (Division I)

In Division I (elementary school, grades 1 through 6) work shall be submitted as group entries representing grades 1, 2, 3 or grades 4, 5, 6 of a school in any single exhibit class intended for students in these grades.

INDIVIDUAL ENTRIES (Divisions II, III)

In Division II (junior high school, grades 7, 8, 9; senior high school, grades 10, 11, 12); and in Division III (college freshmen and sophomores; college juniors and seniors) work shall be submitted as individual entries.

NUMBER OF ENTRIES

In Division I there are no restrictions upon the number of entries which one school may submit.

In Divisions II and III there are no restrictions upon the number of entries which one student may submit. It is advised that the problems be taken up as regular classwork, and that the individual entries be sent as a group in order to save shipping costs; but this is not obligatory.

ORIGINALITY

All entries must be original art work, not copies. Advice and criticism by members of the faculty will not be considered as affecting the originality of entries, but the students themselves must be responsible for the main conception and the execution. Any indication of a violation of this rule will exclude the work from the exhibition.

MOUNTING AND FRAMING

For Group Entries

All group entries which are in flat pieces should be submitted on 22″ x 28″ mounts but should have no further matting or framing. More than one drawing, design, etc., may be put on a single mount.

For Individual Entries

Oil paintings should be submitted on canvas boards or stretchers and suitably framed.

Watercolors and pastels must be matted but not framed. Only one watercolor or pastel should be put in a single mat.

Neither frames in the oil class nor mats in the watercolor and pastel classes should exceed five inches in width. The

design of both frames and mats should be simple and will be considered in the judgment.

All drawings in pencil, ink, crayon, or charcoal, and all prints must be mounted to one of the three following sizes: 14″ x 19″, 18″ x 24″, and 22″ x 28″. These sizes do not apply to Classes 9-13 (Design) of Divisions II and III, where the size should be appropriate to the type of work submitted and the mounts strong enough for ease in handling and exhibiting. Attempts to impress the jury with excessive size should be discouraged.

Only one drawing, print, or design should be put on a single mount.

For All Entries

Charcoal drawings should be thoroughly fixed to prevent rubbing.

Pastels should be protected by heavy cellophane securely attached to the mat on all edges.

An entry blank must be filled out and attached to each entry. See ENTRY BLANKS below.

ENTRY BLANKS

A duplicate entry blank must be filled out for each individual or group entry. One of the blanks must be attached to the entry and the other mailed to the Exhibition Committee.

Entry blanks must be obtained from and returned to
N. C. School Art Exhibition Committee
Department of Art
University of North Carolina
Chapel Hill, N. C.

The enclosed form may be used as a request for entry blanks.

An entry blank should be attached to each entry in the lower right-hand corner of the face of the mount. If the entry is of such a size or shape that the entry blank cannot be so placed, the blank may be mounted on a card of the same size (to prevent tearing) and attached by means of a cord.

The "entry number" applies to the number of entries made by any individual or school. For example, if one en-

trant submits six entries, the blanks should be labeled Entry No. 1, Entry No. 2, etc., through Entry No. 6.

If a group entry occupies more than one mount, place the blank on one mount, and in the lower right-hand corner of the other mount or mounts write the names of the school and the entry number for that school. A group entry will have only one entry number regardless of the number of mounts making up the entry.

ENTRY FEES

For Group Entries

An entry fee of fifty cents will be charged for each group entry.

For Individual Entries

An entry fee of twenty-five cents will be charged for each individual entry.

Payment of Fees

Entry fees must be sent with the entry blanks which are to be mailed. If fees are paid by check or money order, the check or money order should be made payable to the N. C. School Art Exhibition Committee.

CLOSING DATE

All entries, entry blanks, and fees must be in the hands of the Exhibition Committee at Chapel Hill by 5 p. m., Monday, March 24, 1941.

SHIPPING INSTRUCTIONS

All entries should be sent with charges prepaid to

N. C. School Art Exhibition
Department of Art
University of North Carolina
Chapel Hill, N. C.

All packages should have the name and address of the sender clearly written on the outside.

All objects are shipped at the risk of the sender. Work should be carefully wrapped, crated, or boxed. The cooperating Departments cannot be responsible for any loss or damage though all possible care will be taken.

RETURN OF ENTRIES

All entries accepted for the exhibition will be retained for a circulating exhibition (see page 3) and will be returned,

charges collect, by April 1, 1942. Works excluded from the traveling exhibit because of size, shape, or fragility will be returned, charges collect, by May 1, 1941.

All entries not accepted for the exhibition will be returned, charges collect, by April 15, 1941.

COMMUNICATIONS

All communications concerning this exhibition should be addressed to

N. C. School Art Exhibition Committee
Department of Art
University of North Carolina
Chapel Hill, N. C.

Judgment and Awards

The examination of art entries shall be conducted in a thorough manner by a jury of three members from outside the State of North Carolina. This jury shall have the sole power of selection of works to be included in the exhibit and the sole power of making awards.

First and second places shall be awarded in each class on each of the six levels of competition. A blue ribbon shall be given for first place and a red ribbon for second place. If more than one entry is considered of the first or second rank by the jury, more than one blue ribbon and one red ribbon may be awarded in any class. Honorable Mentions (white ribbons) shall be awarded at the discretion of the jury.

On the first four levels of competition the work of city administrative units and county administrative units shall be judged separately except for the purpose of awarding in each class one gold ribbon to designate the best work entered regardless of the classification of the school as city or county unit.

The judges shall reserve the right to refrain from granting any of the awards if in their opinion the work submitted is not of a sufficiently high standard.

Classes of Entry

DIVISION I—ELEMENTARY SCHOOL

Grades 1, 2, 3 (Level 1) and Grades 4, 5, 6 (Level 2) may make *group* entries wherever indicated in the following classes:

Class 1—Illustration **Levels 1, 2**

Group of six original illustrations, two from each grade of the level.

Any painting medium, chalk, crayon, or cut paper may be used. At least two media must be represented in each group of six illustrations. (It is suggested that each picture be labeled as to the subject illustrated.)

Class 2—Posters **Level 2 only**

Group of three original posters, one from each grade.

Any medium may be used: paint, chalk, block printing, etc.

Class 3—Modeling and Carving **Levels 1, 2**

Group of six original pieces, two from each grade of the level.

Clay, wood, plaster of paris, or stone may be used.

Sculpture may be in the round or in relief.

Class 4—Watercolor Painting **Levels 1, 2**

Group of six original watercolors, two from each grade of the level.

Subjects may be landscape, figures, portraits, still life, etc.

Opaque or transparent colors may be used.

Paintings must not exceed 22″ x 28″ in size and need not be matted.

Class 5—Prints **Level 2 only**

Group of six original prints, two from each grade of the level.

Any print medium may be used: linoleum, wood, monoprint, etc.

Any subject may be used.

Class 6—Costume Design **Levels 1, 2**

Group of six original costume designs, two from each grade of the level.

The designs may be for plays, pageants, personal use, etc., and may be in any color medium.

Models may be used.

Class 7—Interior Design **Level 2 only**

Group of six original interior designs, two from each grade of the level.

The designs may be for interiors of homes, offices, restaurants, schools, stage sets, etc.

Either color drawings or models may be submitted. A group of six may consist of six drawings or six models or of a combination of drawings and models.

Class 8—Surface Pattern Design **Levels 1, 2**

Group of six original surface pattern designs, two from each grade of the level.

Patterns must be suitable for textiles, end papers, wrapping paper, etc.

Linoleum or wood block prints, oil, opaque watercolor, crayon, chalk, etc., may be used.

Class 9—Design **Level 2 only**

Group of six original designs, two from each grade level. Single units, abstract or realistic in treatment, rendered in any medium of expression are eligible.

DIVISION II—JUNIOR AND SENIOR HIGH SCHOOLS
DIVISION III—COLLEGES

Grades 7, 8, 9 (Level 3); grades 10, 11, (12) of high school (Level 4); college freshmen and sophomores (Level 5); and college juniors and seniors (Level 6) may make *individual* entries in the following classes:

Class 1—Pencil Drawing **Levels 3, 4, 5, 6**

Original black and white pencil drawing.

Class 2—Ink Drawing **Levels 3, 4, 5, 6**

Original ink drawing. This class includes pictorial work

in black or colored inks or in a combination of both, executed in line or wash, with pen or brush, or with a combination of several techniques.

Class 3—Crayon Drawing **Levels 3, 4, 5, 6**

Original pictorial work in crayon.

Wax, conté, lithograph crayons, and colored pencils will be considered in this class.

Class 4—Charcoal Drawing **Levels 3, 4, 5, 6**

Original pictorial work in charcoal.

Class 5—Chalk or Pastel Drawing **Levels 3, 4, 5, 6**

Original pictorial work in chalk, pastel, or any other dry pigment.

Class 6—Oil Painting **Levels 3, 4, 5, 6**

Original pictorial work in oil made directly from life.

Class 7—Watercolor Painting **Levels 3, 4, 5, 6**

Original pictorial work in transparent watercolors made directly from life.

Class 8—Tempera Painting **Levels 3, 4, 5, 6**

Original pictorial work in tempera made directly from life.

Tempera includes show-card colors and all opaque or mat watercolors.

Class 9—Advertising Design **Levels 3, 4, 5, 6**

Original work in advertising design. This includes posters, car cards, magazine covers, mailing pieces, labels, or other types of advertising matter involving lettering and illustration.

Class 10—Costume Design **Levels 3, 4, 5, 6**

Original work in costume design. This includes designs for plays, pageants, personal use, etc.

Designs must be in color. Paints, crayons, colored inks, or actual fabrics may be used.

Models as well as flat designs may be submitted.

Class 11—Surface Pattern Design **Levels 3, 4, 5, 6**

Original surface pattern design suitable for development

in silk, cretonne, wallpaper, wrapping paper, or for some similar purpose.

The designs must be executed on paper or illustration board in opaque or transparent watercolors, wax or hard-pressed crayons.

Class 12—Interior Design **Levels 3, 4, 5, 6**

Original interior design for a home, office, restaurant, department store, school, church, stage set, etc.

Drawings or models may be submitted. If drawings are used, three are required for each entry: front and side elevations, and a floor plan.

Class 13—Textile Design **Levels 3, 4, 5, 6**

Original work in textile design.

The design must be on the actual fabric, and may be executed with paint, stencil, block prints, dye, batik, or crayon; or it may be woven.

Class 14—Design **Levels 3, 4, 5, 6**

Original design. Single unit, abstract or realistic in treatment, rendered in any medium of expression is eligible.

Class 15—Prints **Levels 3, 4, 5, 6**

Original work in linoleum or woodblock prints, etchings, drypoints, lithographs.

Prints may be in black and white or in color.

Class 16—Sculpture **Levels 3, 4, 5, 6**

Original work in sculpture.

Sculpture may be in the round or in relief.

Material may be chalk, stone, wood, plaster, bronze, or other hard composition.

The entry must not be fragile. Soap sculpture will not be accepted.

Class 17—Ceramics **Levels 3, 4, 5, 6**

Original work in ceramics. Examples of kiln-fired vases, tiles, bookends, lampbases, bowls, plates; or work in the round or in relief; or other objects modeled from clay will be considered.

Third Annual Exhibition Awards

Note: No entries were made in several classes. No awards were made in several classes where there were entries. Many entries receiving no award were included in the exhibition.

Grades 1, 2, 3—Level 1

ILLUSTRATION

1st Fuller School, Durham
1st Greensboro City Schools
2nd Greensboro City Schools
2nd E. K. Powe School, Durham
H.M. Central Elementary School, Albemarle
H.M. Winston-Salem City Schools

MODELING AND CARVING

Greensboro City Schools

WATERCOLOR PAINTING

1st Central Elementary School, Albemarle
1st Greensboro City Schools
1st Greensboro City Schools
1st Greensboro City Schools

SURFACE PATTERN DESIGN

1st Greensboro City Schools
2nd Greensboro City Schools
H.M. Greensboro City Schools

Grades 4, 5, 6—Level 2

ILLUSTRATION

1st Greensboro City Schools

WATERCOLOR PAINTING

1st East Durham School, Durham
1st Greensboro City Schools
H.M. Greensboro City Schools
Greensboro City Schools

SURFACE PATTERN DESIGN

H.M. Greensboro City Schools
Central Elementary School, Albemarle
E. K. Powe School, Durham

MODELING AND CARVING

1st Edgemont School, Durham
Greensboro City Schools

PRINTS

1st Greensboro City Schools
H.M. Central Elementary School, Albemarle
East Durham School, Durham

COSTUME DESIGN

Central Elementary School, Albemarle
Fuller School, Durham

Grades 7, 8, 9—Level 3

ILLUSTRATION

1st Billy Carr, Greensboro
1st Virginia Davis, Greensboro
1st Mary Holmes, Greensboro
1st Dick Morrow, Albemarle
1st Marjorie Shea, Charlotte
1st Billy Smithdeal, Winston-Salem
Edward Crawford, Greensboro
Mary Holmes, Greensboro
Margaret Hudson, Greensboro
Doris Hussell, Charlotte
Pauline Ligon, Durham
Ruth Lowe, Greensboro
Jack Mackie, Winston-Salem
Eunice Moore, Durham
Catherine Teague, Durham
Doris Teague, Durham
Betty Jean Weatherman, Durham

WATERCOLOR PAINTING

1st Bennie Leila Lowe, Greensboro
2nd Billy Carr, Greensboro
H.M. M. C. Anderson, Greensboro
Lucy Hill Baxter, Charlotte
Jackie Conkwright, Charlotte
Allan Osborne, Greensboro
Virginia Stoffel, Greensboro

DESIGN

1st Josephine Whitley, Durham
2nd Margaret Moore, Greensboro
H. M. Murphy High School

SURFACE PATTERN DESIGN

1st Ailene Baker, Durham
1st Espe Dentiste, Greensboro
2nd Virginia Davis, Greensboro
2nd Mary Lou Rainey, Durham
Molly Jean Cherry, Durham
Georgia Gilliam, Albemarle
Ruth Henderson, Durham
Patsy Ingram, Albemarle
Mary Rose Johnson, Albemarle
Ralph Newell, Charlotte

POSTERS

1st Dan Dees, Greensboro

PRINTS

1st James Sanderson, Durham
1st Bradley Tinnin, Durham
2nd Patricia Helms, Durham
Bob Cash, Winston-Salem
Reece Lyndon, Durham
Wortham Lyon, Durham
Billy Sunas, Durham

MODELING AND CARVING

James Dobbins, Greensboro

CRAFTWORK

1st Jean Little, Charlotte

Grades 10, 11, 12—Level 4

OIL PAINTING

H.M. Elizabeth Beall, Greensboro
Elizabeth Beall, Greensboro
Douglas Hunt, Greensboro
Gene Thornton, Greensboro

WATERCOLOR PAINTING

1st Douglas Hunt, Greensboro
2nd Rose Bailiff, Greensboro
2nd David Evans, Greensboro
Elizabeth Beall, Greensboro (2)
Virginia Haynes, Greensboro
Ann Pettigrew, Fassifern School, Hendersonville
Catherine Winn, Greensboro
Pauline Wiseman, Concord

TEMPERA PAINTING

Rose Bailiff, Greensboro
Eloise Pickard, Durham (2)

PRINTS

1st Elizabeth Twaddell, Durham
Jack Basinger, Kannapolis
Clifford Matthews, Greensboro

SCULPTURE

1st Rudy Miller, Greensboro
Kella Bell Bland, Greensboro
Gene Thornton, Greensboro

DESIGN

Elizabeth Beall, Greensboro
Calvin McAdoo

PENCIL DRAWING

Diane Page, Greensboro

INK DRAWING

1st Elizabeth Beall, Greensboro
2nd Douglas Hunt, Greensboro
Helen Moore, Fassifern School, Hendersonville
Frances Peebles, Fassifern School, Hendersonville
Catherine Winn, Greensboro

CRAYON DRAWING

Rose Bailiff, Greensboro
Verona Kampschmidt, Greensboro
Eloise Pickard, Durham
Miriam Young, Greensboro

CHARCOAL DRAWING

1st Eloise Pickard, Durham
Jean Nowell, Greensboro
Eloise Pickard, Durham

COSTUME DESIGN

Elizabeth Moore, Greensboro

INTERIOR DESIGN

Gene Thornton, Greensboro

TEXTILE DESIGN

1st Elizabeth Beall, Greensboro
Rose Bailiff, Greensboro
Patsy Fordham, Greensboro
Doris Jones, Greensboro

College Freshmen and Sophomores—Level 5

PENCIL DRAWING

Nancy Vest. St. Mary's Junior College, Raleigh

CHARCOAL DRAWING

H.M. Bobbie Green, Meredith College, Raleigh

Bobbie Green, Meredith College, Raleigh

Catherine Wyatt, Meredith College, Raleigh

OIL PAINTING

Louise Collier, Meredith College, Raleigh

ADVERTISING DESIGN

Karleen Lassiter, Queen's College, Charlotte

COSTUME DESIGN

Gertrude Carter, St. Mary's Junior College, Raleigh

Helen Duncan, Queen's College, Charlotte (3)

Mary Willis Douthatt, St. Mary's Jr. College, Raleigh

College Juniors and Seniors—Level 6

OIL PAINTING

Virginia Sluder, Meredith College, Raleigh

TEXTILE DESIGN

Alice Barron, Queen's College, Charlotte

DESIGN

Alice Barron, Queen's College, Charlotte

Elizabeth Harms, Queen's College, Charlotte

JURY

Third Annual North Carolina School Art Exhibition

Verne Bradley, Art Supervisor, Birmingham, Alabama, City Schools.

Lamar Dodd, Head, Department of Art, University of Georgia, Athens, Georgia.

Grace Sabotka, Professor of Art, Peabody College, Nashville, Tennessee.

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